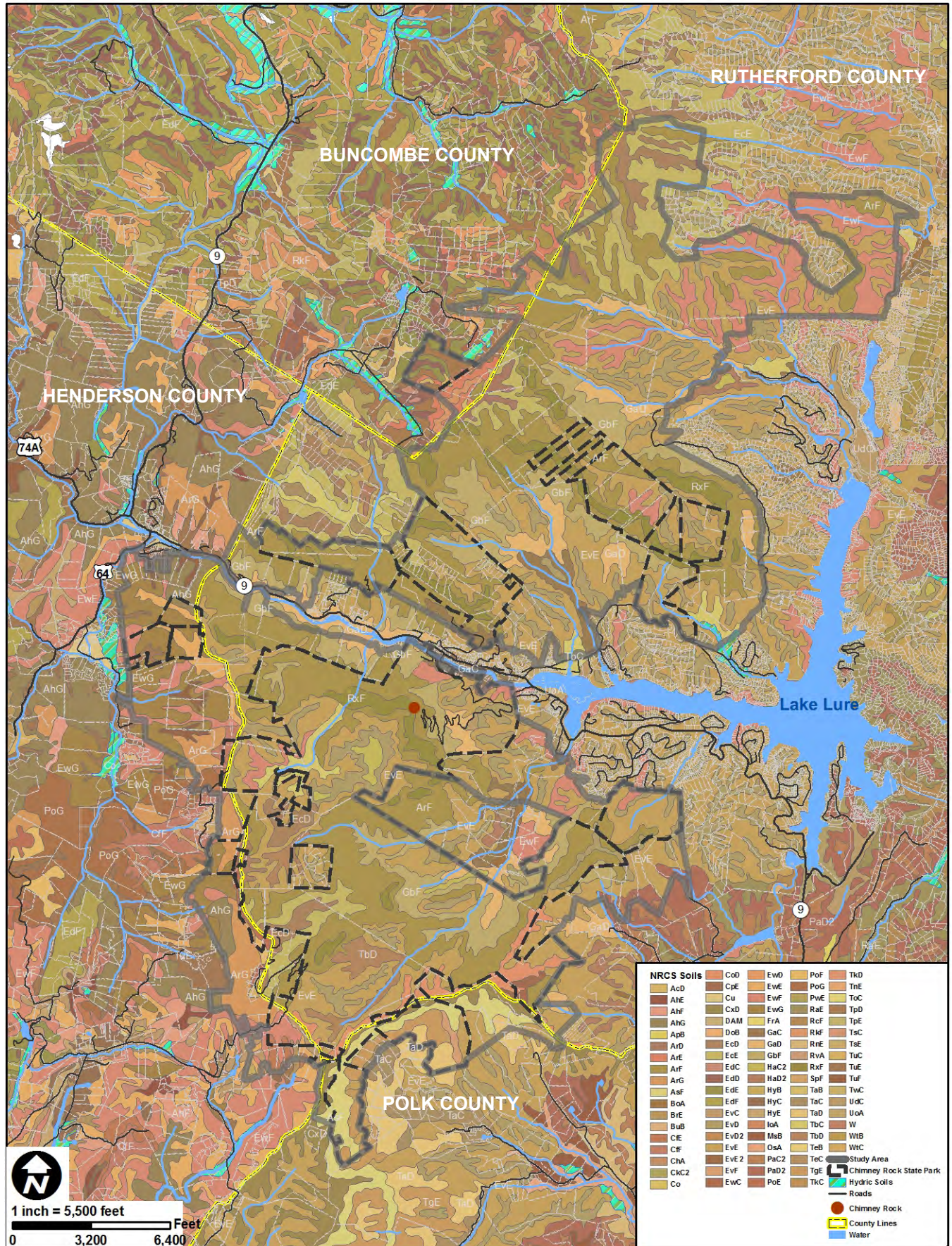


FIGURE 3.11: STUDY AREA SOILS





FLORA, FAUNA AND NATURAL COMMUNITIES

The Chimney Rock State Park study area contains a diverse combination of flora and fauna due to its relationship to two different physiographic regions: the southern Blue Ridge Mountains and the Piedmont. With a substantial gradient in elevation, a varied topography, and the wide range of geology, Chimney Rock State Park supports a diverse set of natural communities as well as a high diversity of plants and animals. The study area contains superb habitat for well-known animal species such as black bear (*Ursus americanus*), white-tailed deer (*Odocoileus virginianus*), gray fox (*Urocyon cinereoargenteus*) and red fox (*Vulpes vulpes*), as well as rare species, including the green salamander (*Aneides aeneus*), the cerulean warbler (*Dendroica cerulea*), and the peregrine falcon (*Falco peregrinus*). The study area is particularly notable for habitats that support a large number of rare plant species, including white irisette (*Sysyrrinchium dichotomum*), sweet white trillium (*Trillium simile*), and Carolina saxifrage (*Micranthes caroliniana*).



1 White-tailed deer

2 Black bear

3 Red fox; by R. Laubenstein, US Fish & Wildlife Service

4 Green salamander

5 Peregrine falcon; by Aviceda

6 Cerulean warbler

7 Carolina saxifrage

This study area encompasses all or part of eight Significant Natural Heritage Areas (SNHA) as shown in Figure 3.12. Although heritage areas are often recognized for the presence of rare species, their presence alone does not determine the final significance placed on a particular site. Since biodiversity depends on the long-term conservation of a large number of different species and natural community types, heritage areas are rated based on the cumulative value of their rare species, their high quality natural communities, and their overall biodiversity arising from both rare and common species.



Significant natural areas are critical to the overall ecological, scientific, aesthetic, environmental health, recreational, educational, and cultural values that they provide. SNHA's are classified into one of four rankings:

A - National Significance: Considered to contain examples of natural communities, rare plant or animal populations, or other significant ecological features that are among the highest quality or best (top five or six) examples of their kind in the nation.

B - State Significance: Considered to contain examples of natural communities, rare plant or animal populations, or other significant ecological features that are among the highest quality or best (top five or six) examples of their kind in North Carolina, after any nationally significant examples. There may be comparable (or more significant) sites elsewhere in the nation or within the state.

C - Regional Significance: Considered to contain examples of natural communities, rare plant or animal populations, or other significant ecological features that are represented elsewhere in the state by better examples, but which are among the highest quality or best (top five or six) examples in their geographic region of the state.

D - County Significance: Considered to contain significant biological resources at the county level, but which do not rank at the regional (or higher) level.

Six out of the eight heritage areas in the Chimney Rock State Park study area have an "A" ranking, while the remaining two have a ranking of "B" and "C." "D" ranked communities were not found within the study area.

The eight heritage areas are part of the Hickory Nut Gorge Macrosite which is within a larger area known as the Southeast Escarpment Megasite. The Hickory Nut Gorge Macrosite consists of rugged peaks, gorges, ridge tops, deep coves, and most importantly, large tracts of contiguous forested land. This site is ecologically important for animals that require large areas for breeding and feeding and is ecologically significant because of the diversity and quality of its natural community types. Within the study area alone, nearly 600 plant species have been noted. Across the eight heritage areas that traverse the study area, there are approximately 90 rare plant species, 19 rare animal species, and 14 high quality natural community types (including Watch List species; see Figures 3.13 - 3.17).

SIGNIFICANT NATURAL HERITAGE AREAS

Bald Mountain/Round Top Mountain (740 acres)

This "A" ranked site is significant for high quality examples of several natural community types. These include Low Elevation Granitic Dome, which is scattered throughout the site. An excellent example of Chestnut Oak Forest extends across the upper slopes, and the lower slopes support extensive Montane Oak-Hickory Forest. Particularly notable are the examples of a Spray Cliff community at Rainbow Falls, and the nearly vertical Montane Acidic Cliff community directly opposite the park entrance, at Round Top Mountain. The site has records for seven rare plant species and four rare animal species that are state or federally-listed, including Carolina saxifrage (*Micranthes caroliniana*), lobed spleenwort (*Asplenium pinnatifidum*), and green salamander.



Lobed spleenwort; by John Hilty



Bat Cave/Blue Rock Mountain (549 acres)

This “A” ranked site contains one of the largest caves in North Carolina and the largest fissure cave in the world. The caves are located on the north-facing side of Hickory Nut Gorge, which contains a number of high quality forest communities, granitic domes, and rocky bluffs. Mature, high quality Rich Cove Forest occurs across the rocky low and mid-slopes below the bat caves, and good quality Chestnut Oak Forest occurs above the coves. A good quality example of the rare Carolina Hemlock Bluff occurs near the caves, and excellent examples of Low Elevation Granitic Dome are present. Biodiversity is quite high at this site and includes eight plant species and 10 animal species that are state or federally-listed. These include rock-fire clubmoss (*Huperzia porophila*), deerhair bulrush (*Tricophorum cespitosum*), and Indiana bat (*Myotis sodalis*).



Deerhair bulrush; by Kristian Peters

Cane Creek Mountain (536 acres)

This “A” ranked site is located at the eastern end of Hickory Nut Gorge and is notable for its prominent peak, steep narrow ridges, and rock outcrops that stretch for almost one mile. It has six natural community types, including high quality Rich Cove Forest along the north slopes and summit. Excellent examples of Chestnut Oak Forest are common along the upper slopes, and Canada Hemlock Forest occurs across the lower slopes. Four plant species and four animal species are state or federally-listed, including sweet white trillium (*Trillium simile*) and lampshade spider (*Hypochilus coylei*).



Sweet white trillium; by Bill Swindaman

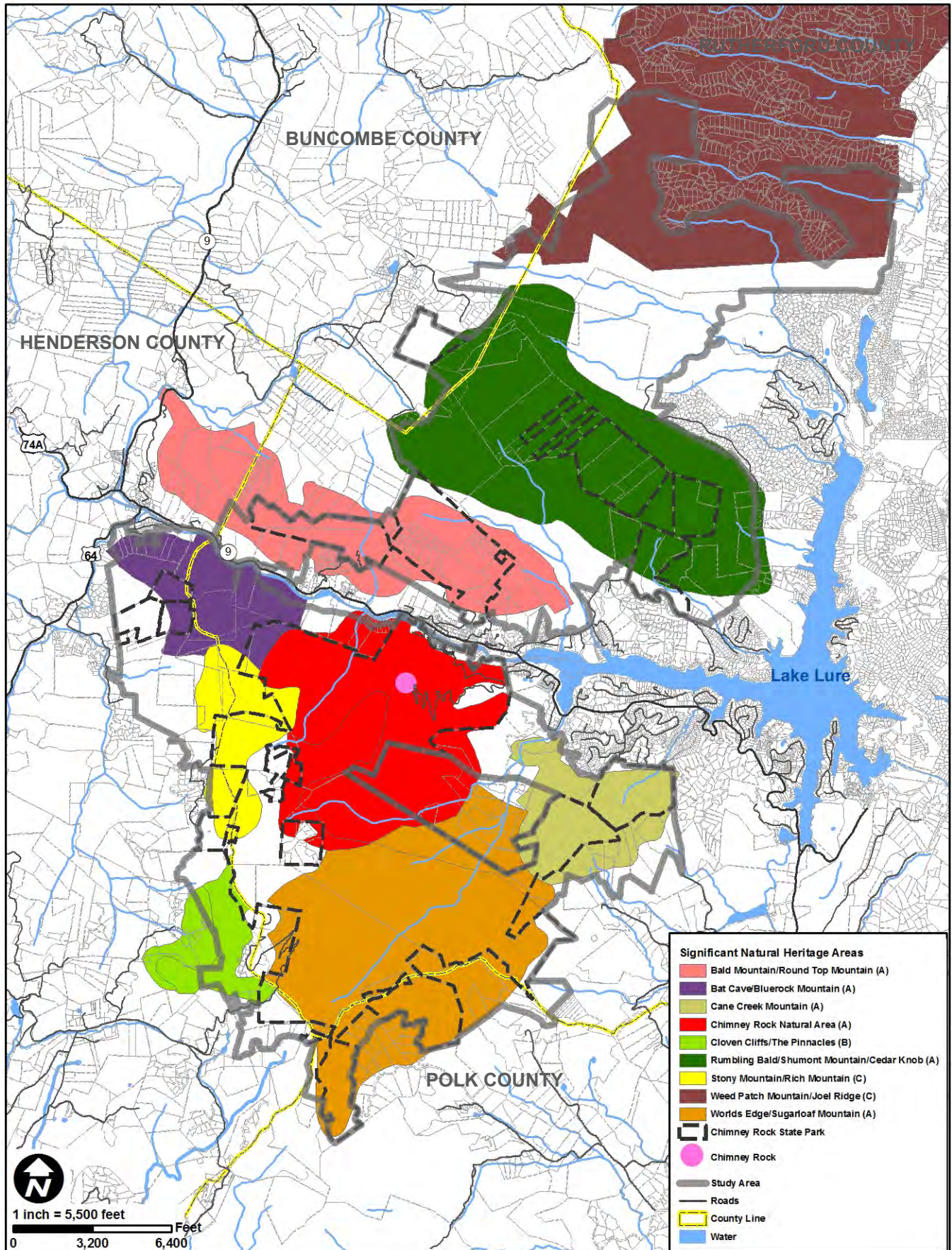
Chimney Rock Natural Area (1,488 acres)

This “A” ranked site contains the Chimney Rock attraction and is one of the most scenic and ecologically significant sites in the study area. It includes eight natural community types, including the very rare Montane Red Cedar–Hardwood Woodland. The park’s namesake peak dominates this rugged site, and most of the steep, northeast and southeast-facing slopes contain good examples of Low Elevation Granitic Dome, mature Rich Cove Forest, and Acidic Cove Forest. The northeast-facing granitic domes support many rare species, and this site has 17 plant species and seven animal species that are state or federally-listed. Notable species include the Peregrine falcon, green salamander, rock gnome lichen (*Gymnoderma lineare*), and Biltmore sedge (*Carex biltmoreana*).



Rock gnome lichen; by U.S. Fish & Wildlife Service

FIGURE 3.12: STUDY AREA SIGNIFICANT NATURAL HERITAGE AREAS





Rumbling Bald/Shumont Mountain/Cedar Knob
(2,276 acres)

The dramatic cliffs at this “A” ranked site are a prominent feature of the study area and are located along the eastern edge of the Blue Ridge Escarpment. It is one of the most significant sites in the Hickory Nut Gorge area due its large size, which supports high quality, contiguous examples of five natural community types. These communities are distributed throughout the site to form a habitat mosaic that allows for unusually high biodiversity. The site includes extensive examples of Low Elevation Granitic Dome, Montane Oak-Hickory Forest, and Chestnut Oak Forest community types. High quality Carolina Hemlock Bluff and Pine-Oak/Heath are also present. The site includes several large fissure caves, which provide habitat for several bat species, including the federally-listed eastern small-footed myotis (*Myotis leibii*). This site has 10 plant species and nine animal species that are state or federally-listed, including sweet pinesap (*Monotropsis odorata*), bleeding heart (*Dicentra eximia*), and eastern woodrat (*Neotoma floridana haematorea*).



Bleeding heart; by Liz West

Rich Mountain/Stony Mountain (427 acres)

This “C” ranked site is characterized by two prominent peaks on the Rutherford/Henderson County line. Good quality examples of five natural community types occur across its steep and rocky upper slopes and forested lower slopes. Montane Oak-Hickory Forest occurs at the summits of both mountains, with Low Elevation Rocky Summit and Low Elevation Granitic Dome occurring at Stony Mountain and Rich Mountain, respectively. A small Carolina Hemlock Bluff occurs near the summit of Stony Mountain, and there is also an example of Pine-Oak/Heath along the exposed ridges. This is a fire-dependent ecosystem that is dominated by Table Mountain Pine (*Pinus pungens*). The site includes three plant species and one animal species that are state or federally listed, including Blue Ridge bindweed (*Calystegia catesbeiana* ssp. *sericata*) and white irisette.



Bindweed; by J.M. Garg

Cloven Cliffs/The Pinnacles (333 acres)

This “B” ranked site is located along the Henderson/Rutherford County border and is notable for the spectacular rock faces at Cloven Cliffs and the large, perched boulders at The Pinnacles. Although the flora at either of these rocky sites is not particularly well-developed or diverse, both sites afford sweeping vistas. Records exist for at least two NC Watch-Listed species, including Biltmore sedge and broadleaf coreopsis (*Coreopsis latifolia*).



Weed Patch Mountain/Joel Ridge (3,968 acres)

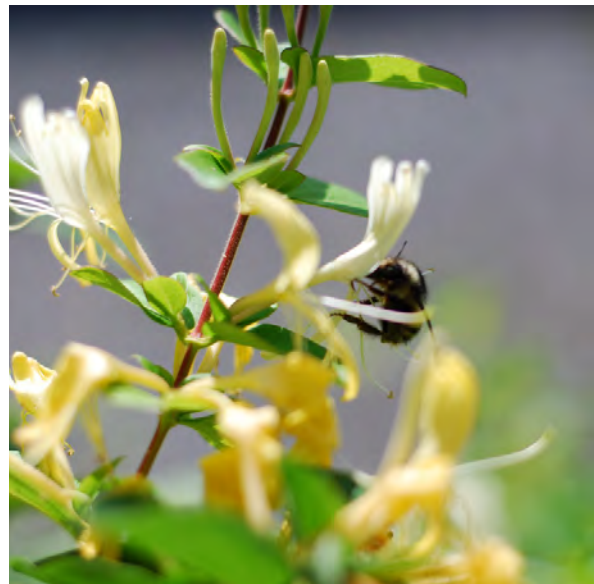
Located about one air mile north of Rumbling Bald and Shumont Mountain, this site is significant for its natural community types and presence of two rare species. Several north and south-facing slopes, steep coves, and east-west oriented ridges provide habitat for Montane Oak-Hickory and Pine-Oak/Heath forest. The coves are separated by the eastward-sloping ridges of the Weed Patch Mountain summit. Acidic Cove, Rich Cove, and Dry Oak-Hickory community types occur on the drier slopes and ridge tops. Two rare species are known to occur here, including broad leaf coreopsis (*Coreopsis latifolia*) and green salamander (*Aneides aeneus*), a Federal Species of Concern.



Broadleaf coreopsis; by Rob Sutter

World's Edge/Sugarloaf Mountain (2,100 acres)

This "A" ranked site is another area that is notable for its size, rare species, and overall biodiversity. It takes its name from its location along the eastern edge of the Blue Ridge Escarpment, which falls away dramatically to the Piedmont. This site includes a spectacular, one-mile long series of steep, southeast-facing slopes that supports nine natural community types, including good quality examples of Chestnut Oak Forest and Pine-Oak/Heath. High quality examples of Low Elevation Granitic Dome occur across an extensive array of outcrops, and the very rare Semi-Exfoliated Basic Glade is found at this site. Rich Cove and Acidic Cove occur along the lower slopes, and the uncommon Montane Oak-Hickory Forest type also occurs. Seven plant species and five animal species are state or federally-listed, including shale-barren blazing star (*Liatris turgida*), yellow honeysuckle (*Lonicera flava*), and crevice salamander (*Plethodon yonahlossee*).



Yellow honeysuckle; by R. F. James

NATURAL COMMUNITY TYPES

The descriptions and classifications appearing below for these natural community types are taken from *Classification of the Natural Communities of North Carolina, 3rd Approximation* (1990), by Mike Schafale and Alan Weakley.

Natural communities are characterized by vegetation composition and appearance, assemblages of animals or other organisms, topography, substrate, hydrology, soil characteristics, or other abiotic factors. Natural community types typically occupy subtly different environments that are the result of slight variations in substrate, topography, elevation, aspect, and moisture. The boundaries between community types are rarely distinct, and there is much heterogeneity along elevation and moisture gradients. The result is a constantly evolving vegetation mosaic across the landscape, and in order to efficiently articulate these boundaries, it is common for ecologists to classify community types based on the dominant canopy species, and that is the approach used here.

These ecological units are important because they house examples of unique species compositions and often rare species, they retain many important natural characteristics and ecosystem functions, and they are valuable indicators of a given area's biodiversity. The natural community types on the following pages are known to occur within the Chimney Rock State Park study area.



FIGURE 3.13: SUMMARY OF HIGH QUALITY NATURAL COMMUNITIES IN STUDY AREA

Rich Cove Forest	Montane Red Cedar-Hardwood Woodland
Acidic Cove Forest	Low Elevation Granitic Dome
Canada Hemlock Forest	Low Elevation Rocky Summit
Carolina Hemlock Bluff	Montane Acidic Cliff
Pine-Oak/Heath	Spray Cliff
Chestnut Oak Forest	Low Elevation Seep
Montane Oak-Hickory Forest	Semi-Exfoliated Basic Glade

Rich Cove Forest

Rich Cove Forest community types are widespread and abundant in the Southern Appalachians, and they typically occur in protected coves and slopes on low to moderate elevation sites, frequently with a north-facing aspect. The soils are generally rich, moisture is high, and biological diversity is correspondingly high. These forests are characterized by a diverse and lush herb layer and a closed canopy dominated by a diverse mixture of species, including sweet birch (*Betula lenta*), basswood (*Tilia americana*), and cucumber tree (*Magnolia fraseri*), among others. Rich Coves are one of the most species-diverse community types in eastern North America, especially for the number of tree and herb species that can occur in them.

Acidic Cove Forest

This community type is common in the mountainous regions of North Carolina and in sheltered sites at low to moderate elevations outside of the mountains. It often occurs in narrow rocky gorges, steep ravines, and sheltered valleys and slopes where it is generally moist and humid. These communities occur over more nutrient-poor soils than Rich Cove Forests, primarily due to the presence of relatively acidic soils.

Although it shares a number of canopy dominant species with Rich Cove Forests, the canopy tends to be dominated by a more acid-tolerant subset of species, including red maple (*Acer rubrum*), tulip poplar (*Liriodendron tulipifera*), and Canada hemlock (*Tsuga canadensis*). This community type is also differentiated from Rich Cove Forests by its shrub layer, which is distinctly and characteristically dominated by ericaceous species such as mountain laurel (*Kalmia latifolia*) that often form dense thickets.

Canada Hemlock Forest

This community is generally less mesic than cove forest sites and occurs in a variety of different locations and aspects including sheltered coves and slopes at middle to high elevations in the mountains and Piedmont. These forests are strongly dominated by Canada hemlock, and they are severely threatened due to the presence of the hemlock woolly adelgid (*Adelges tsugae*), a non-native pest that has affected hemlocks throughout eastern North America. No native predator exists for these insects.

Carolina Hemlock Bluff

This community is considered rare because its dominant species, Carolina hemlock (*Tsuga caroliniana*), is restricted to southern Virginia, western North Carolina, eastern Tennessee, northwestern South Carolina, and northern Georgia. Sites where it is capable of becoming dominant are uncommon. Carolina Hemlock Bluffs usually occur on rocky acidic soils on steep slopes, bluffs, or gorge walls. Like the Canada hemlock Forest, this community type is under attack from the hemlock woolly adelgid.

Pine-Oak/Heath

This community type occurs on very dry, acidic soils of exposed ridgetops and steep, south-facing crests at low to middle elevations. The best examples of this community type occurs in Hickory Nut Gorge along a

few prominent steep and rocky south-facing ridgelines. This is a heterogeneous community that is commonly dominated by stunted and gnarled pine species, particularly Virginia pine (*Pinus virginiana*), Table Mountain pine (*P. pungens*), and pitch pine (*P. rigida*). The shrub layer is generally very dense and is dominated by ericaceous shrubs, most commonly mountain laurel and blueberry (*Vaccinium sp.*) These communities are among the driest and most exposed on the landscape and are unusually prone to wind and lightning. They are believed to be heavily dependent on periodic fire, sometimes severe, in order to maintain the shade-intolerant species that dominate.

Chestnut Oak Forest

This is one of the more common mountain forest communities at low to moderate elevations, and is found throughout Hickory Nut Gorge. The canopy is generally closed, with canopy gaps occurring around rock outcrops. The canopy can be diverse, but is strongly dominated by Chestnut oak (*Quercus montana*) and scarlet oak (*Q. coccinea*), with lesser amounts of northern red oak (*Q. rubra*), white oak (*Q. alba*), various hickory species (*Carya sp.*), and other cove forest species.

Montane Oak-Hickory Forest

This community type is widespread in the mountains of North Carolina, although most prominently south of the Asheville Basin. However, in the South Mountains of Rutherford County, it is mostly limited to the Hickory Nut Gorge area. It occurs on dry to moist slopes and ridgetops that are somewhat exposed at low to high elevations. The canopy is generally closed and is dominated by a mixture of oaks and hickories, with white oak, chestnut oak, northern red oak, mockernut hickory (*Carya alba*), and pignut hickory (*C. glabra*) being the most common.

Montane Red Cedar – Hardwood Woodland

This is a newly described community type that covers rare, open-canopy woodlands on shallow soils over bedrock, containing plants indicative of neutral soil conditions. Eastern red cedar (*Juniperus virginiana*) is abundant, but other oaks and hickories are often also abundant.

Low Elevation Granitic Dome

This community type occurs on upper slopes and summits across the western Piedmont and lower parts of the Blue Ridge and is distinguished from other rock community types by the absence of crevices and deep soil pockets, so that shallow soil mats determine vegetation. The rock surfaces are steep to gently sloping exposures of smooth, exfoliating granite or similar massive igneous or metamorphic rock, such as granitic gneiss. The smooth surfaces and lack of crevices on exfoliation domes create an environment that lacks many of the microhabitats that occur on craggier outcrops.

Low Elevation Rocky Summit

The Low Elevation Rocky Summit occurs on exposed summits at moderate to low elevations in the mountains and the Piedmont. These rare communities are structurally similar to High Elevation Rocky Summits, but are distinct due to the lower elevation and the flora assemblages, as they generally occur under 4,000 ft. in elevation. They can be characterized by the presence of rugged uneven vertical and horizontal rock with little or no canopy present. These sites are typically open and dominated by herbaceous species, but will occasionally support scattered, stunted trees around the margins. Numerous lichens and mosses are also common. These communities are believed to persist in the early stages of primary succession due to a combination of resistant rocks, poor soil development, extreme weather conditions, and natural disturbance, primarily wind, snow, and ice.

Montane Acidic Cliff

This is an uncommon community that occurs on lower to mid slopes where steep to vertical rock is exposed over an area large enough to create a break in the surrounding forest canopy. This is a heterogeneous type, even within a single site, and may range from dry sites on bare rock with shallow soil pockets, to wetter and more sheltered sites on north-facing slopes, to saturated seepage areas. The best developed examples are characterized by bare rock and are dominated by mosses and lichens with only scattered woody species. These sites typically lack a closed shrub layer; however, scattered and stunted trees and shrubs may occur.



Spray Cliff

This community type occurs around waterfalls, and although it is scattered throughout the mountains, it is rare in the upper Piedmont. Examples vary widely, depending on the amount and dependability of spray, but all are generally indicative of unusually equitable and stable environments, where the humidity is high and the moisture supply is essentially constant. Most have very a distinctive flora dominated by bryophytes, mosses, and liverworts, but they may also contain rare species such as Carolina or Carey's saxifrage (*Micranthes caroliniana* and *S. careyana*).



Chimney Rock State Park's natural environment provides an ideal habitat for a diverse range of plants and animals



Low Elevation Seep

This community type generally occurs in low lying areas along or near small streams, with seepage generally flowing towards a larger adjacent stream. They are fairly common, but never extensive, and are usually saturated and mucky. The canopy is usually closed and is typically dominated by species such as yellow poplar, red maple, sycamore (*Platanus occidentalis*), and river birch (*Betula nigra*).

Semi-Exfoliated Basic Glade

This is a newly-described community type that is believed to be rare. It occurs on gently to moderately sloping low elevation outcrops with irregular surfaces but few crevices, and supports plants characteristic of higher pH conditions. Their rocky structure is intermediate between Granitic Domes and Rocky Summits, and they are vegetatively similar to Low Elevation Granitic Domes, with plants occurring in grassy mats.

STATUS AND SUPPLEMENTARY DESIGNATIONS FOR RARE PLANT AND ANIMAL SPECIES

Animal and plant species that are state-listed as Endangered, Threatened or Special Concern are protected under N.C. General Statutes by the N.C. Wildlife Resources Commission and the N.C. Plant Conservation Program, respectively. Plant or animal species classified as Significantly Rare or Watch List do not have legal protection. Species with federal classifications of Endangered or Threatened are protected by the U.S. Fish and Wildlife Service under the Endangered Species Act of 1973. Species that are listed as Candidate or Federal Species of Concern (FSC) have no federal protection. Rare plant and animal species known to occur in the study area are listed in Figures 3.13 and 3.14. Status codes are defined below.

E	Endangered	A species in danger of extinction throughout all or a significant part of its range.
T	Threatened	A species that is likely to become an Endangered species in the near future throughout all of its range or a significant part of it.
SC	Special Concern	A species which has some evidence of vulnerability, but not enough data to support a listing of Endangered or Threatened.
SR	Significantly Rare	Indicates rarity and the need for population monitoring and possible conservation for species currently listed as Endangered, Threatened, or Special Concern.



FIGURE 3.14: SUMMARY OF SPECIAL STATUS PLANT SPECIES IN STUDY AREA

SCIENTIFIC NAME	COMMON NAME	STATE STATUS	FEDERAL STATUS
Rare Plant Species			
<i>Amelanchier sanguinea</i>	Roundleaf Serviceberry	SR-P	—
<i>Arabis patens</i>	Spreading Rockcress	SR-T	—
<i>Asplenium bradleyi</i>	Bradley's Spleenwort	SR-P	—
<i>Asplenium pinnatifidum</i>	Lobed Spleenwort	SR-P	—
<i>Calamagrostis porteri</i>	Porter's Reed Grass	SR-P	—
<i>Cardamine dissecta</i>	Dissected Toothwort	SR-P	—
<i>Carex baileyi</i>	Bailey's Sedge	SR-P	—
<i>Celastrus scandens</i>	American Bittersweet	SR-P	—
<i>Clematis catesbyana</i>	Coastal Virgin's-bower	SR-P	—
<i>Cyrto-hypnum pygmaeum</i>	Pygmy Cyrto-hypnum Moss	SR-O	—
<i>Dicentra eximia</i>	Bleeding Heart	SR-P	—
<i>Draba ramosissima</i>	Branching Draba	SR-P	—
<i>Fothergilla major</i>	Large Witch-alder	SR-T	—
<i>Gymnoderma lineare</i>	Rock Gnome Lichen	T	E
<i>Hexalectris spicata</i>	Crested Coralroot Orchid	SR-P	—
<i>Huperzia porophila</i>	Rock-fir Clubmoss	SR-P	—
<i>Isotria medeoloides</i>	Small Whorled Pogonia	E	T
<i>Liatris squarrulosa</i>	Earle's Blazing-star	SR-P	—
<i>Liatris turgida</i>	Shale-barren Blazing-star	SR-T	—
<i>Micranthes caroliniana</i>	Carolina Saxifrage	SR-T	—
<i>Monotropsis odorata</i>	Sweet Pinesap	SR-T	FSC
<i>Packera millefolium</i>	Divided-leaf Ragwort	T	FSC
<i>Parthenium auriculatum</i>	Glade Wild Quinine	SR-T	—
<i>Prenanthes alba</i>	White Rattlesnakeroot	SR-P	—
<i>Primula meadia</i>	Eastern Shooting-Star	SR-P	—
<i>Robinia hispida</i> var. <i>kelseyi</i>	Kelsey's Locust	SR-O	—
<i>Rynchospora alba</i>	Northern White Beaksedge	SR-P	—
<i>Sisyrinchium dichotomum</i>	White Irisette	E	E
<i>Solidago simulans</i>	Granite Dome Goldenrod	SR-L	FSC
<i>Trichophorum cespitosum</i>	Deerhair Bulrush	SR-D	—
<i>Trillium simile</i>	Sweet White Trilium	SR-L	—

Notes:

State Status: E - Endangered; T - Threatened; SC - Special Concern; SR - Significantly Rare; W - Watch List

Federal Status: E - Endangered; FSC - Federal Species of Concern; T - Threatened



Species that are listed as Significantly Rare (SR) also include a supplementary designation indicating if its range. Supplementary designation definitions are defined below.

L	Limited	The range of the species is limited to North Carolina and adjacent states (endemic or nearly so). These are species that may have 20-50 populations in North Carolina, and their fate depends largely on their conservation in North Carolina.
T	Throughout	The species is rare throughout its entire range, with <100 populations total.
D	Disjunct	The species is disjunct to North Carolina from its main range in a different part of the country or world.
P	Peripheral	The species is at the periphery of its range in North Carolina, mostly in habitats that are unusual in North Carolina.
O	Other	The species' range is sporadic or cannot be described by the other categories.

FIGURE 3.15: SUMMARY OF SPECIAL STATUS ANIMAL SPECIES IN STUDY AREA

SCIENTIFIC NAME	COMMON NAME	STATE STATUS	FEDERAL STATUS
Rare Animal Species			
<i>Aneides aeneus</i>	Green Salamander	E	FSC
<i>Crotalus horridus</i>	Timber Rattlesnake	SC	—
<i>Dendroica cerulea</i>	Cerulean Warbler	SC	FSC
<i>Falco peregrinus</i>	Peregrine Falcon	E	—
<i>Hypochilus coylei</i>	Lampshade Spider	SR	—
<i>Myotis grisescens</i>	Gray Myotis	E	E
<i>Myotis leibii</i>	Eastern Small-footed Myotis	SC	FSC
<i>Myotis sodalis</i>	Indiana Bat	E	E
<i>Nesticus brimleyi</i>	Nesticid Spider	SR	—
<i>Plethodon amplus</i>	Blue Ridge Gray-cheeked Salamander	SR	—
<i>Plethodon yonahlosse pop. 1</i>	Crevice Salamander	SC	—
<i>Pseudosinella gisini</i>	Cave-obligate Springtail	SR	—

Notes:

State Status: E - Endangered; T - Threatened; SC - Special Concern; SR - Significantly Rare; W - Watch List

Federal Status: E - Endangered; FSC - Federal Species of Concern

Watch List species include those that are rare or otherwise threatened with serious decline, but for which current information does not justify placement on the main rare species list as Endangered, Threatened, Special Concern, or Significantly Rare. These species are additional indicators of significant habitats, and their presence should be considered in planning natural area protection efforts, although with less weight than higher priority rare species and natural communities. Watch List species can be found in Figures 3.16 and 3.17.



FIGURE 3.16: SUMMARY OF WATCH LIST ANIMAL SPECIES IN STUDY AREA

SCIENTIFIC NAME	COMMON NAME
Watch List Animal Species	
<i>Corvus corax</i>	Common Raven
<i>Falco sparverius</i>	American Kestrel
<i>Lampropeltis triangulum triangulum</i>	Eastern Milk Snake
<i>Limnothlypis swainsonii</i>	Swainson's Warbler
<i>Myotis septentrionalis</i>	Northern Long-eared Myotis
<i>Neotoma floridana haematoreia</i>	Southern Appalachian Eastern Woodrat
<i>Sorex hoyi winnemana</i>	Southern Pygmy Shrew

FIGURE 3.17: SUMMARY OF WATCH LIST PLANT SPECIES IN STUDY AREA

SCIENTIFIC NAME	COMMON NAME
Watch List Plant Species	
<i>Anemone quinquefolia</i>	Wood Anemone
<i>Aralia racemosa</i>	American Spikenard
<i>Aronia prunifolia</i>	Purple Chokecherry
<i>Asplenium montanum</i>	Mountain Spleenwort
<i>Asplenium resiliens</i>	Blackstem Spleenwort
<i>Calystegia catesbeiana</i>	Blue Ridge Bindweed
<i>Campanulastrum americanum</i>	Tall Bellflower
<i>Carex albursina</i>	White Bear Sedge
<i>Carex biltmoreana</i>	Biltmore Sedge
<i>Carex leavenworthii</i>	Leavenworth's Sedge
<i>Carex ruthii</i>	Ruth's Sedge
<i>Castilleja coccinea</i>	Scarlet Indian-paintbrush
<i>Chamaelirium luteum</i>	Devil's Bit
<i>Clematis catesbyana</i>	Coastal Virgin's-bower
<i>Coreopsis latifolia</i>	Broadleaf Coreopsis
<i>Cornus alternifolia</i>	Alternate-leaf Dogwood
<i>Cypripedium parviflorum var. pubescens</i>	Large Yellow Lady's-slipper
<i>Dicanthelium latifolium</i>	Broadleaf Witch Grass
<i>Dicentra cucullaria</i>	Dutchman's Breeches
<i>Diplazium pycnocarpon</i>	Glade Fern
<i>Drosera rotundifolia</i>	Roundleaf Sundew
<i>Eupatorium steelii</i>	Appalachian Joe-Pye-Weed
<i>Fallopia scandens var. 1</i>	Crested Climbing Buckwheat
<i>Fothergilla major</i>	Large Witch Alder
<i>Galax urceolata</i>	Galax
<i>Goodyera repens</i>	Lesser Rattlesnake-orchid
<i>Heuchera parviflora var. parviflora</i>	Grotto Alumroot
<i>Heuchera parviflora</i>	Littleleaf Alumroot



FIGURE 3.17: (CONT'D.) SUMMARY OF WATCH LIST PLANT SPECIES IN STUDY AREA

SCIENTIFIC NAME	COMMON NAME
Watch List Plant Species	
<i>Huperzia appressa</i>	Appalachian Fir-clubmoss
<i>Hydrophyllum canadense</i>	Blunt-leaf Waterleaf
<i>Hydrangea cinerea</i>	Ashy Hydrangea
<i>Ilex ambigua</i>	Carolina Holly
<i>Juglans cinerea</i>	Butternut
<i>Krigia montana</i>	Mountain Cynthia
<i>Lonicera flava</i>	Yellow Honeysuckle
<i>Micranthes careyana</i>	Carey's Saxifrage
<i>Micranthes micranthidifolia</i>	Lettuce-leaf Saxifrage
<i>Muhlenbergia mexicana</i>	Mexican Muhly
<i>Muhlenbergia sylvatica</i>	Woodland Muhly
<i>Panax quinquefolius</i>	Ginseng
<i>Pellaea atropurpurea</i>	Purple Stem Cliff-Bake
<i>Penstemon smallii</i>	Small's Beardtongue
<i>Philadelphus hirsutus</i>	Hairy Mock-Orange
<i>Philadelphus inodorus</i>	Scentless Mock-Orange
<i>Pinus strobus</i>	Eastern White Pine
<i>Ptelea trifoliata</i>	Wafer Ash
<i>Rhododendron minus</i>	Carolina Rhododendron
<i>Salix humilis</i>	Tall Prairie Willow
<i>Sanguinaria canadensis</i>	Bloodroot
<i>Sphenopholis intermedia</i>	Prairie Wedgescale
<i>Stenanthium gramineum</i>	Eastern Featherbells
<i>Thuja occidentalis</i>	American Arborvitae
<i>Tsuga canadensis</i>	Eastern Hemlock
<i>Tsuga caroliniana</i>	Carolina Hemlock
<i>Trillium rugelii</i>	Southern Nodding Trillium
<i>Trillium cuneatum</i>	Little Sweet Betsy
<i>Verbesina virginica</i> var. <i>virginica</i>	Common Frostweed
<i>Viola blanda</i>	Smooth White Violet



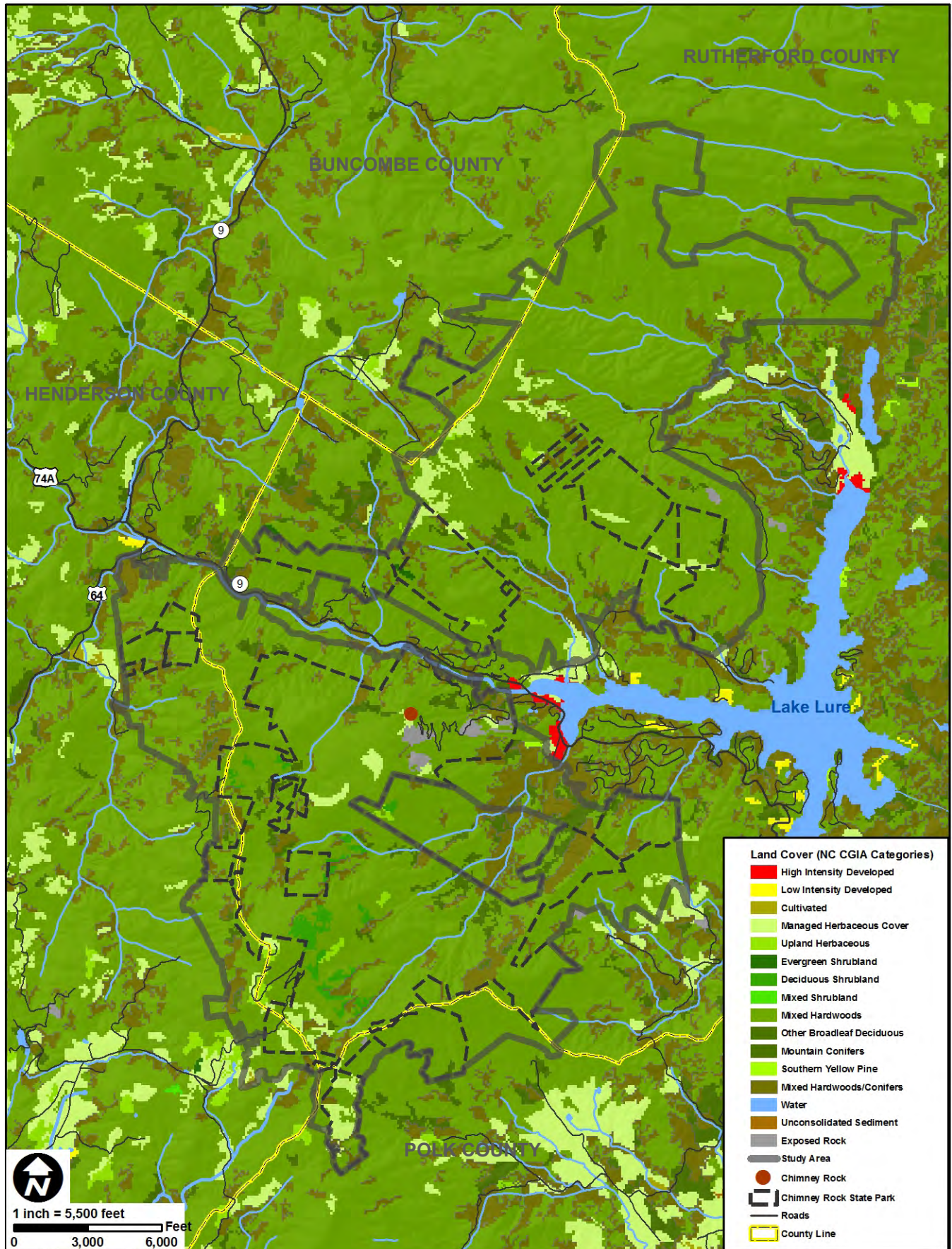
LAND COVER

Figure 3.18 illustrates the land cover for Chimney Rock State Park and the surrounding study area. The data for this map was obtained from the North Carolina Center for Geographic Information and Analysis (CGIA) (1996). This map displays 16 different land cover types based on analysis from satellite imagery. The most common types of land cover shown on the map are mixed hardwoods (77% of study area), mixed hardwoods/conifers (13%), and mountain conifers (4%). The Town of Lake Lure and Chimney Rock Village can be seen as high intensity developed areas. This map helps to illustrate the densely wooded and contiguous forests in the area of the park.



View looking east to Lake Lure showing tree cover in and around the park

FIGURE 3.18: STUDY AREA LAND COVER





BIODIVERSITY AND WILDLIFE HABITAT

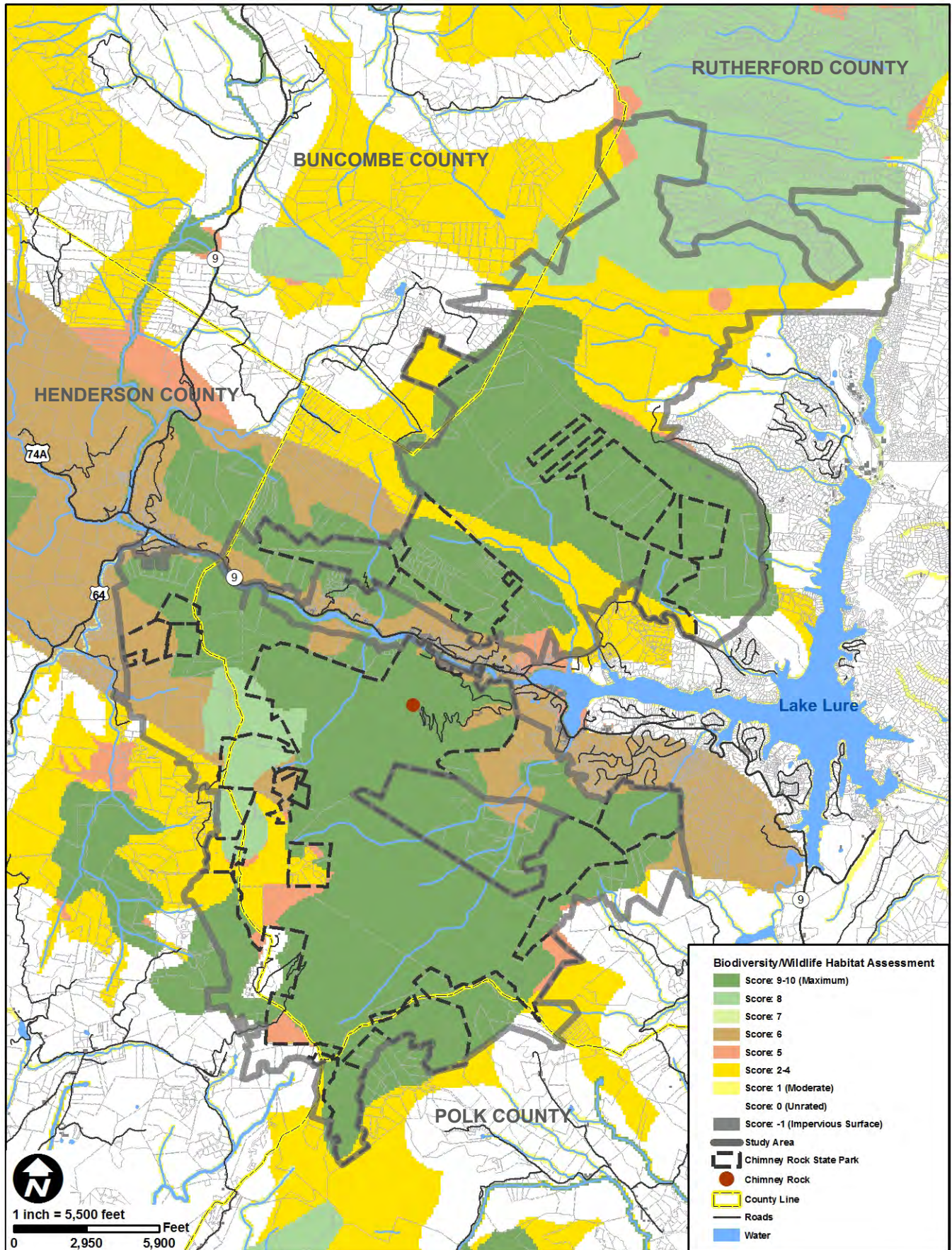
Biodiversity and wildlife habitat assessment data was obtained through the Conservation Planning Tool for North Carolina initially developed by an assessment team made up of N.C. Natural Heritage Program staff, and then reviewed by field ecologists, biologists and botanists from several state environmental agencies. This data compiles a multitude of complex variables that contribute to biodiversity and habitat assessment. Generally, for assessment of biodiversity, the available data represents three major components of ecological resources. These are: biodiversity, both of aquatic and terrestrial species and communities; large scale terrestrial landscapes, including core wildlife habitats and habitat connectors; and other lands of particular importance to ecosystem processes, such as riparian buffers and wetlands.

As seen in Figure 3.19, a majority of the study area within Chimney Rock State Park are ranked at 9-10, the highest relative conservation value for biodiversity and wildlife habitat. The map shows “islands” of these high rankings bordered by middle to low relative conservation values.



Flame azalea located within the study area

FIGURE 3.19: STUDY AREA BIODIVERSITY AND WILDLIFE HABITAT ASSESSMENT





FIRE MANAGEMENT

Hickory Nut Gorge supports a number of fire prone and fire adapted natural community types and species, particularly on dry, south-facing slopes and ridges that are dominated by Pine-Oak Heath natural communities. The long term fire history of the area is largely unknown and although some natural community types such as the moist cove forests and hemlock forests are not generally considered to be fire adapted, fire is known to be ecologically important in this part of the southern Blue Ridge Escarpment. Evidence of past fires are common across the landscape and several wildfires have occurred in the Hickory Nut Gorge in the past decade. A fire management plan incorporating both prescribed fire and wildfire response will be developed collaboratively by the N.C. Division of Parks and Recreation, the N.C. Division of Forest Resources, local fire departments, and land conservation organizations.



Fire management at Chimney Rock State Park.



Prescribed burning has ecological importance in the southern Blue Ridge Escarpment.



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4 NEEDS ASSESSMENT

INTRODUCTION

In order to develop an appropriate design program for Chimney Rock State Park, it is important to consider the outdoor and recreational needs of a diverse range of past, present and future visitors. The assessment of these needs helps to define development alternatives for Chimney Rock State Park. A definition of "need" comes from several sources: an examination of state and national surveys of outdoor needs and use in western North Carolina, opinion surveys, and direct public input. It is clear through public input that potential users of Chimney Rock State Park are interested in a variety of park and recreational facilities. User trends and needs for specific recreational spaces and facilities have been identified both throughout the Hickory Nut Gorge region and the western part of North Carolina.

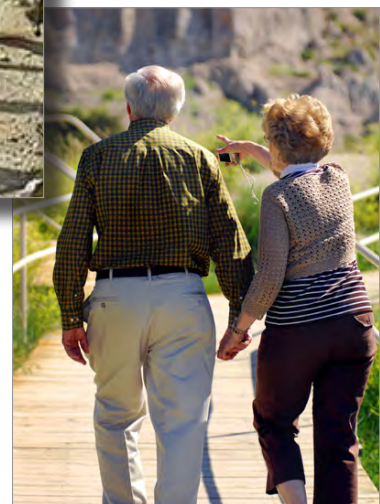
DETERMINING REGIONAL & LOCAL NEED FOR NATURAL RESOURCE-BASED RECREATION

Chimney Rock State Park is a world-class park and must be designed, developed and managed to meet diverse visitor needs. Therefore, the need for natural resource-based recreation was examined through local, regional, and national sources of input. Examples include the State Comprehensive Outdoor Recreation Plan, the National Survey of Recreation and the Environment, online surveys and public comment forms specific to Chimney Rock State Park, and public input from a planning workshop. Specifically, this chapter:

- Examines existing natural resource-based recreation in western North Carolina and the Hickory Nut Gorge Region;
- Examines the concentration of natural resource-based recreation using a recent user survey, a demand analysis, and geographic information systems (GIS) mapping;
- Analyzes the demographics of western North Carolina;
- Compares offerings at nearby state parks and other public lands; and
- Identifies the Chimney Rock State Park visitor.



A variety of activities and range of abilities are taken into account for the needs assessment.





REGIONAL NATURAL RESOURCE-BASED RECREATION

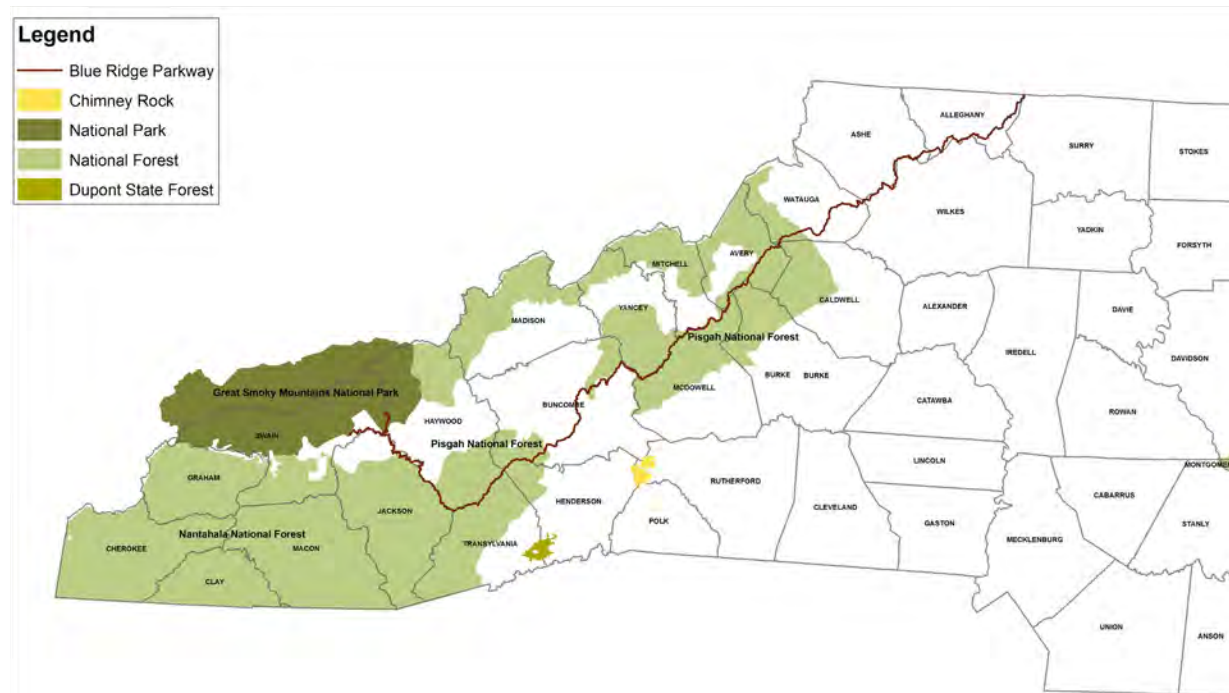
EXISTING NATURAL RESOURCE-BASED RECREATION IN THE WESTERN NORTH CAROLINA REGION

The western North Carolina region includes the Appalachian Mountains, Great Smoky Mountains and the Blue Ridge Mountains. Its boundaries are defined by the border shared with Tennessee to the eastern edge of Rutherford, Burke, Caldwell, Wilkes, and Surry counties. Several national protected areas span the region offering a range of nature-based recreational activity and include Pisgah National Forest, Nantahala National Forest, Great Smoky Mountains National Park, and the Blue Ridge Parkway (see Figure 4.1). Dupont State Forest is also a regional outdoor recreation destination. Natural resource-based activities for this region include:

- Hiking
- Winter Sports
- Mountain Biking
- Horseback Riding
- Rock Climbing
- Fishing
- Swimming
- Whitewater Rafting
- Paddling
- Camping/Backpacking
- Caving



FIGURE 4.1: NATIONAL PARKS AND FORESTS IN WESTERN NORTH CAROLINA



Source: NC One Map



EXISTING NATURAL RESOURCE-BASED RECREATION IN THE HICKORY NUT GORGE REGION

Hickory Nut Gorge is located between the Blue Ridge and Great Smoky Mountains. The 14-mile long gorge was formed by the Rocky Broad River and encompasses the communities of Lake Lure, Gerton, Bat Cave, and Chimney Rock Village. The region includes the counties of Buncombe, McDowell, Henderson, Rutherford, and Polk and is the location of Chimney Rock State Park. Based on the Statewide Comprehensive Outdoor Recreation Plan and local chamber of commerce data, natural resource-based activities for this area include:

- Hiking
- Mountain Biking
- Horseback Riding
- Rock Climbing
- Fishing
- Swimming
- Paddling
- Camping/Backpacking



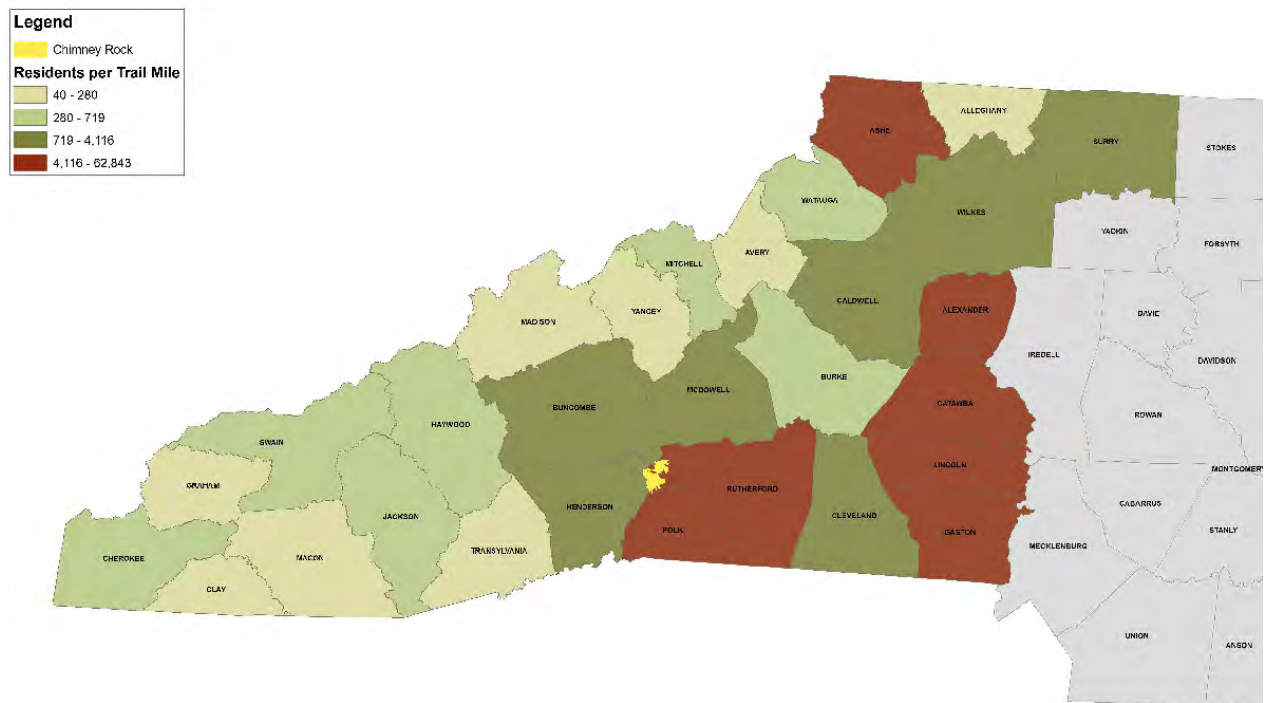
CONCENTRATION OF NATURAL RESOURCE-BASED RECREATION

The concentration of natural resource-based recreation varies across western North Carolina. This is likely due to the presence of the Nantahala and Pisgah National Forest, Blue Ridge Parkway and their recreation opportunities. These forests encompass 1,627 square miles across the western North Carolina region, however there is no access to them from the Hickory Nut Gorge. Between Nantahala and Pisgah National Forest, there are nearly 1,700 miles of hiking, mountain biking, and equestrian trails. In the Hickory Nut Gorge region, hiking trails are limited to the Donald Ross nature trails, Gerton hiking trails, and Chimney Rock State Park hiking trails. Figures 4.2 - 4.11 show the distribution of each nature-based activity for both the western North Carolina region and Hickory Nut Gorge.

When measured against the entire western North Carolina region, Hickory Nut Gorge is underserved when it comes to access to existing natural resource-based recreation. For example, Figure 4.2 shows miles of hiking trail per person, by county (data obtained from the Statewide Comprehensive Outdoor Recreation Plan, 2008). When considering trail need broadly across western North Carolina populations, it is evident that trails are needed in the counties adjacent to Chimney Rock State Park. In fact, these counties exhibit some of the highest numbers of residents per mile of hiking trail in the state (see Figure 4.2). Rutherford County experiences the highest ratio in western North Carolina with 62,843 persons per mile of trail, indicating the need for more hiking trails.

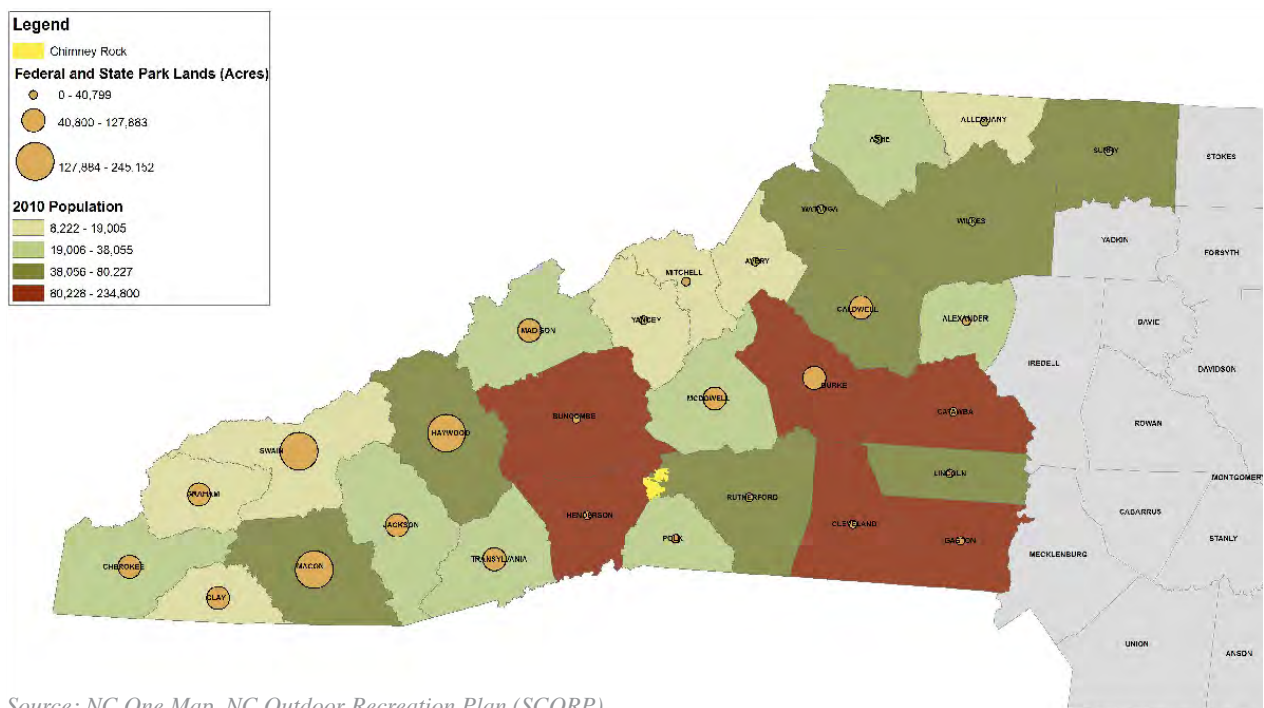


FIGURE 4.2: RESIDENTS PER MILE OF HIKING TRAIL BY COUNTY



Source: NC One Map, NC Outdoor Recreation Plan (SCORP)

FIGURE 4.3: FEDERAL AND STATE PARK LANDS AND 2010 POPULATION BY COUNTY



Source: NC One Map, NC Outdoor Recreation Plan (SCORP)

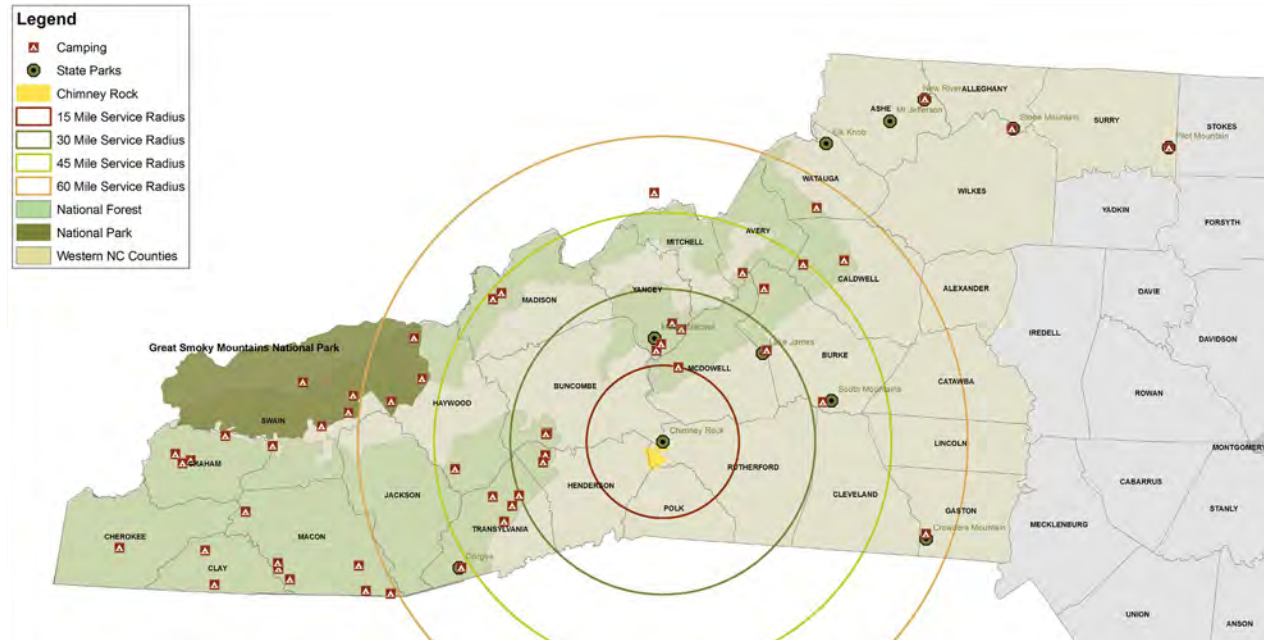
In Figure 4.3, the gradation from light green to maroon shows increasing population while the increases in circle size represent acreages of federal and state park lands. Adjacent counties to Chimney Rock have relatively low acreages of these parklands when compared to counties west of the study area. Yet, these counties, especially Buncombe and Henderson, have some of the highest populations in western North Carolina. Therefore, additional parklands are required to meet the needs of nearby residents.



NATURAL RESOURCE-BASED RECREATION MAPS

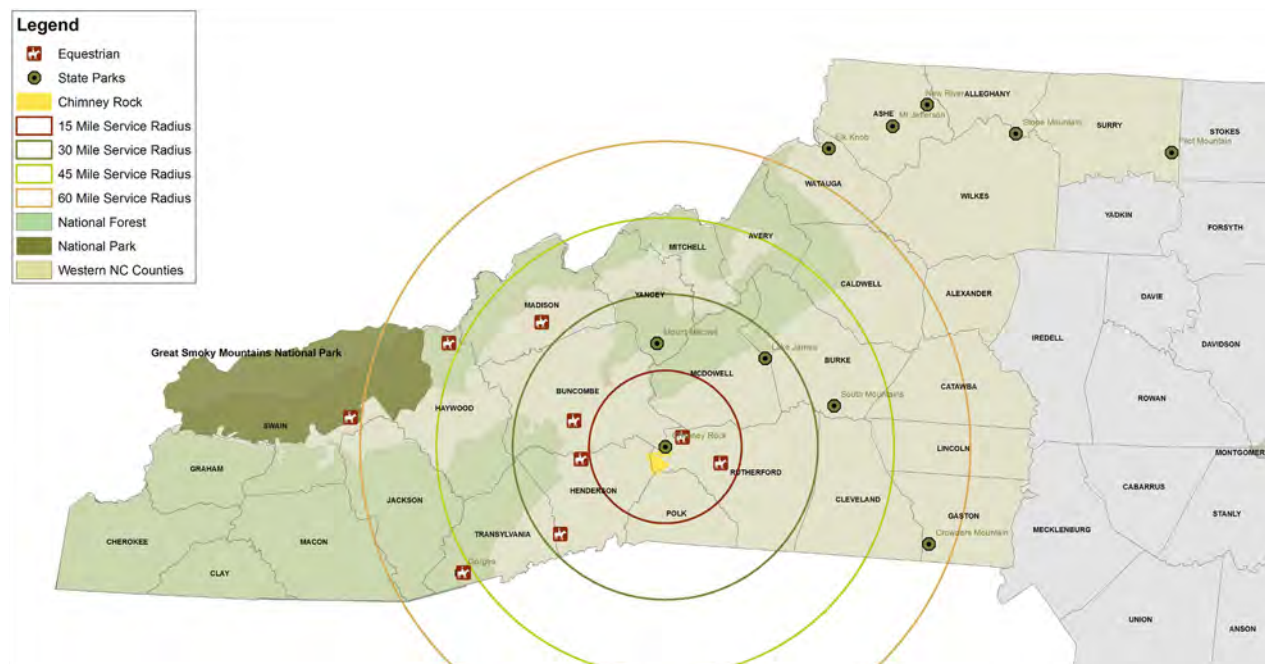
Every year, people visit western North Carolina to experience hiking, mountain biking, and other recreational activities. Examination of user proximity to these activities is important with respect to user groups as well as the development of future state parks facilities. While one user may be willing to make a four-hour round trip in one day to experience a day of hiking, a family with young children likely will not. Using Chimney Rock State Park as a hub, distances of 15, 30, 45, and 60-mile radii were examined. Figures 4.4 - 4.8 show travel distances from the park. By overlaying these service radii, we can begin to understand from a geographic perspective that there are deficiencies in such activities such as camping, hiking, and mountain biking. This information will help to determine the park development program for future state park facilities.

FIGURE 4.4: CHIMNEY ROCK SERVICE RADII - CAMPING AREAS



Source: NC One Map, North Carolina Gazetteer (DeLorme), various online sources

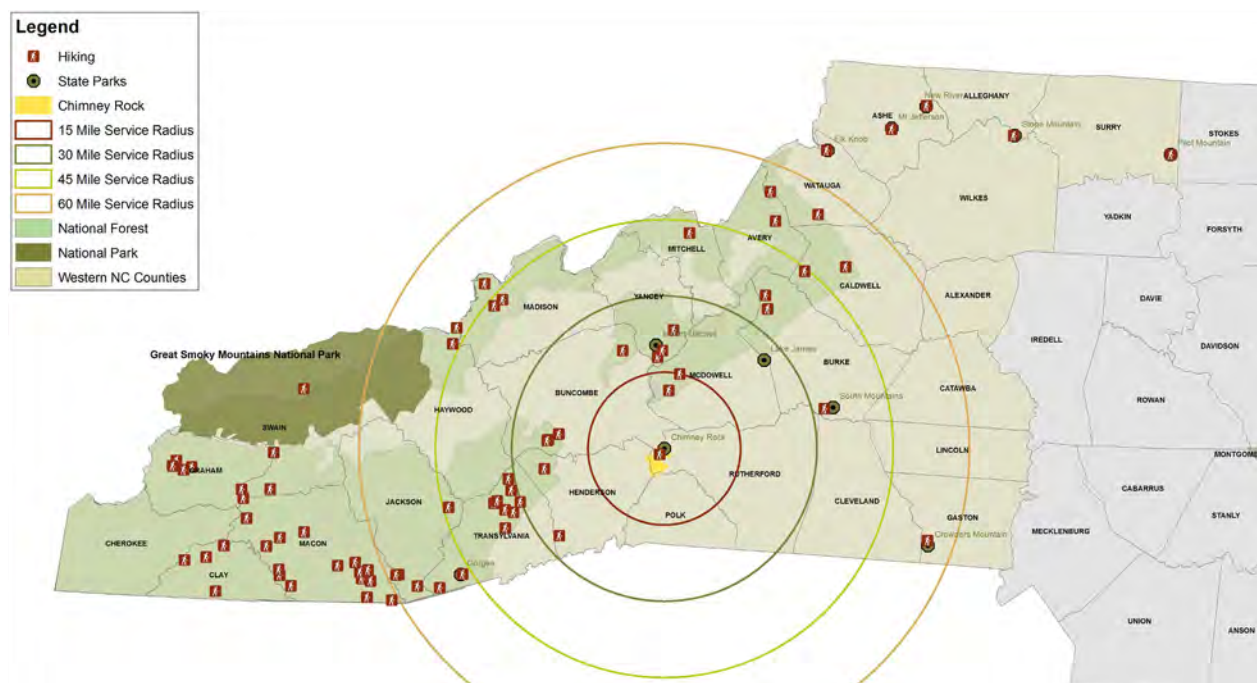
FIGURE 4.5: CHIMNEY ROCK SERVICE RADII - EQUESTRIAN TRAILHEADS



Source: NC One Map, North Carolina Gazetteer (DeLorme), various online sources

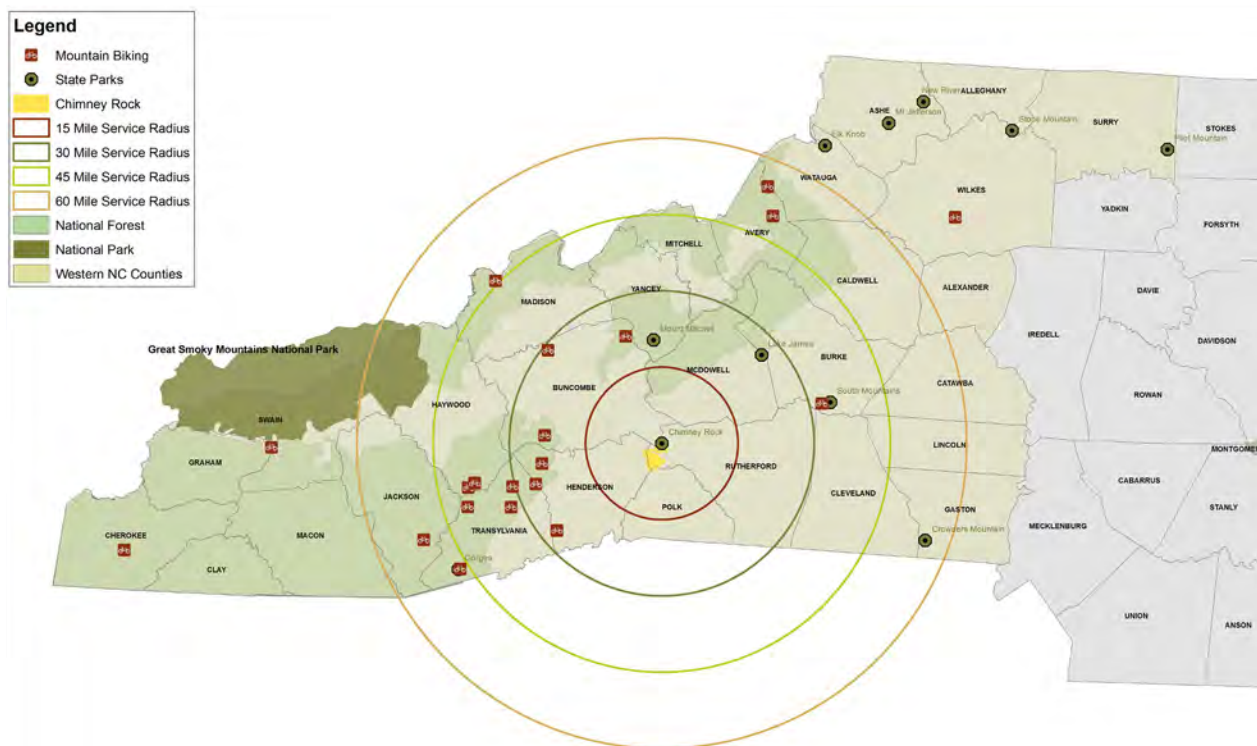


FIGURE 4.6: CHIMNEY ROCK SERVICE RADII - HIKING TRAILHEADS



Source: NC One Map, North Carolina Gazetteer (DeLorme), various online sources

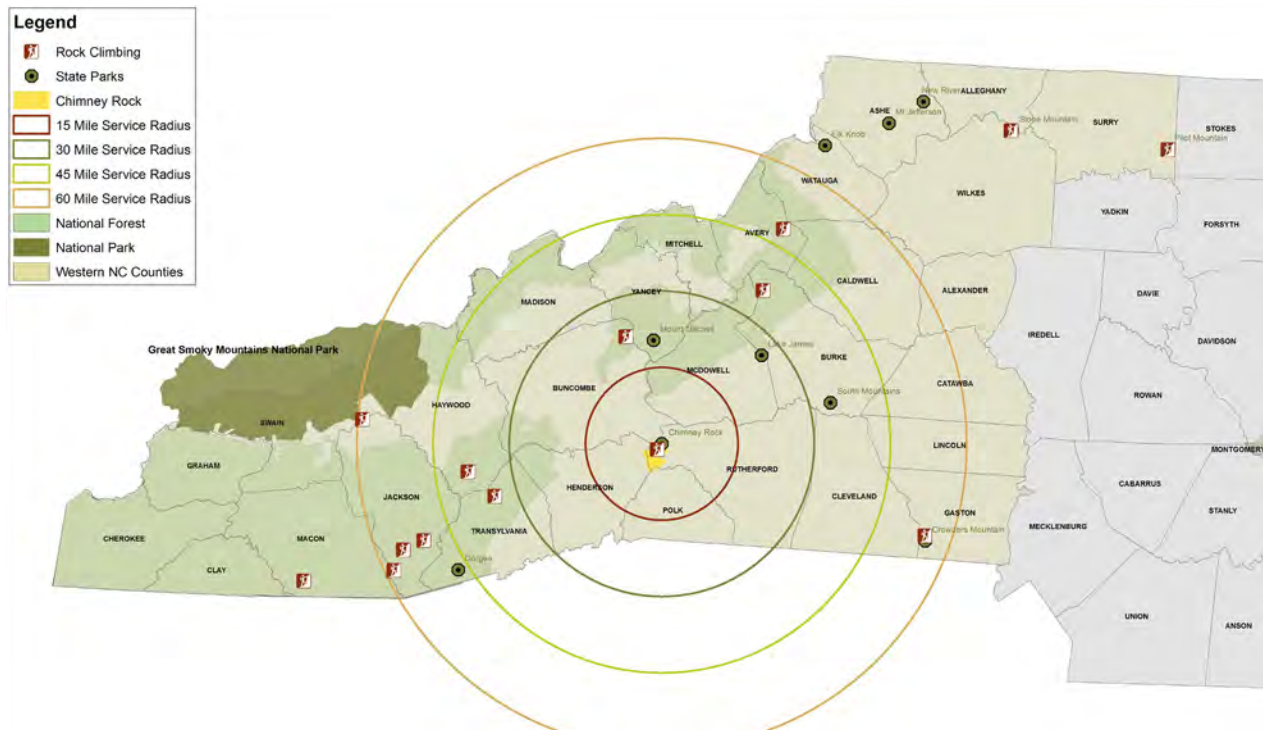
FIGURE 4.7: CHIMNEY ROCK SERVICE RADII - MOUNTAIN BIKING TRAILHEADS



Source: NC One Map, North Carolina Gazetteer (DeLorme), www.mtbikewnc.com, various online sources



FIGURE 4.8: CHIMNEY ROCK SERVICE RADII - ROCK CLIMBING



Source: NC One Map, North Carolina Gazetteer (DeLorme), Flatlines Southeast Climbing, various online sources

OTHER WESTERN NORTH CAROLINA STATE PARKS

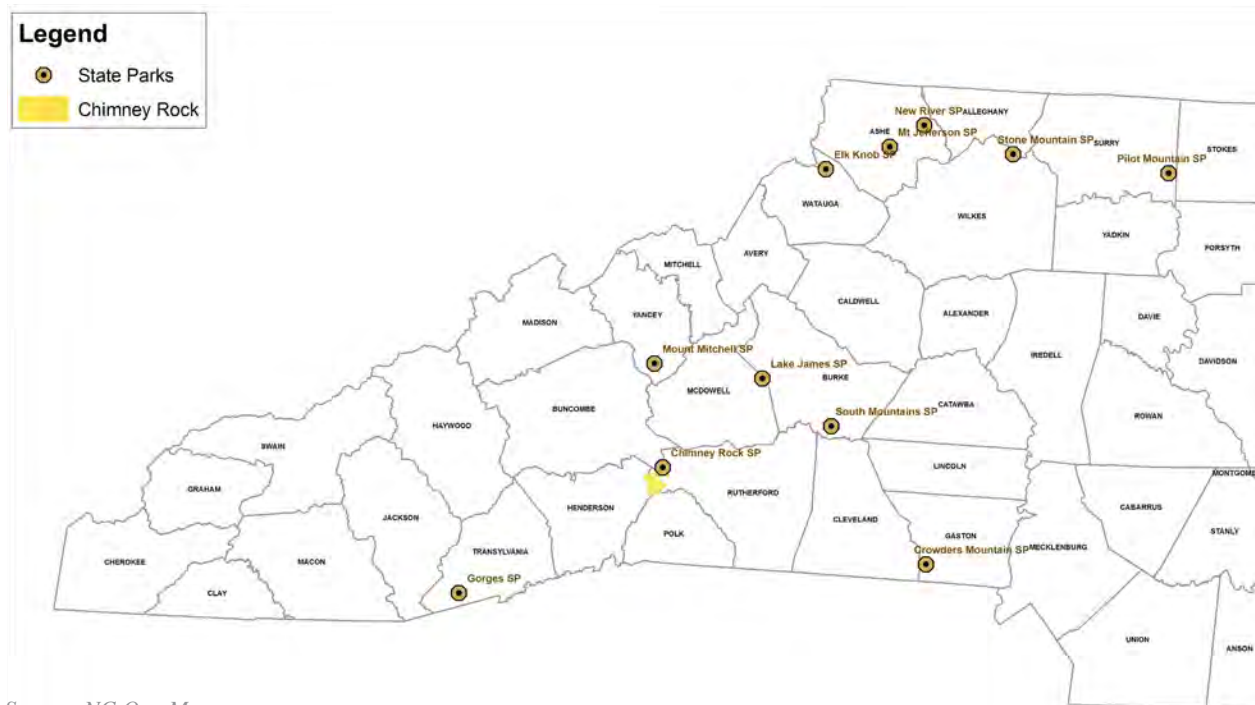
Examining the park facilities of other western North Carolina state parks helps to assess the demand, use, and success of specific recreational options. This analysis will help guide specific program and facility recommendations for Chimney Rock State Park by 1) determining whether there is a lack of facilities in surrounding parks, and 2) understanding the successes and/or failures of specific facilities that may translate to Chimney Rock State Park. Table 4.1 and Figure 4.9 display the location and activities of other western North Carolina state parks.

TABLE 4.1: PROGRAMS AND FACILITIES AT OTHER STATE PARKS IN WESTERN NORTH CAROLINA

State Park	Distance from Chimney Rock	Env. Education	Overnight Facilities	Hiking	Mountain Biking	Equestrian
SOUTH MOUNTAINS	70 mi.	Yes	Camping	Yes	Yes	Yes
GORGES	60 mi.	Yes	Camping	Yes	Yes	Yes
LAKE JAMES	30 mi.	Yes	Camping	Yes	No	No
MOUNT MITCHELL	23 mi.	Yes	Camping	Yes	No	No



FIGURE 4.9: STATE PARKS IN WESTERN NORTH CAROLINA

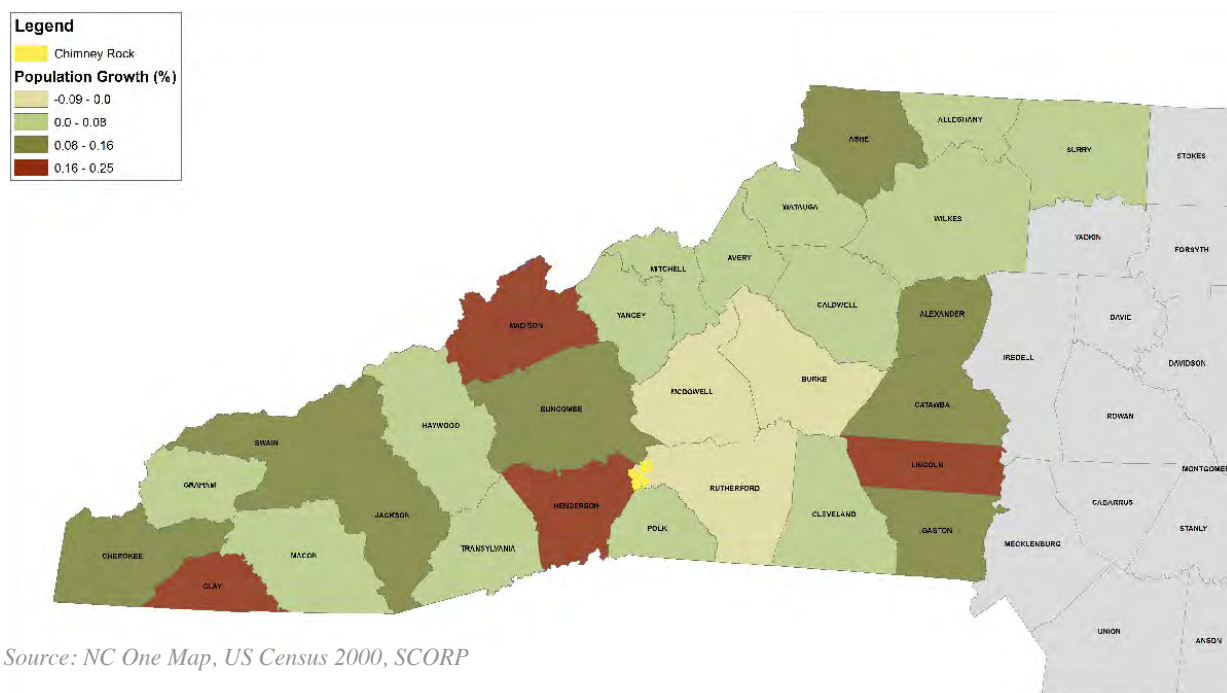


Source: NC One Map

DEMOGRAPHICS OF WESTERN NORTH CAROLINA

When recommending a park implementation program, demographics and population trends are important to consider, especially from a regional perspective. These trends help to inform park planners about the potential recreational needs of a changing population. Population growth has been significant in Henderson and Buncombe counties over the past 10 years (see Figure 4.10). It will therefore be important to understand the recreational needs of the existing and growing population (see Figure 4.15).

FIGURE 4.10: POPULATION GROWTH MAP (2000-2010)

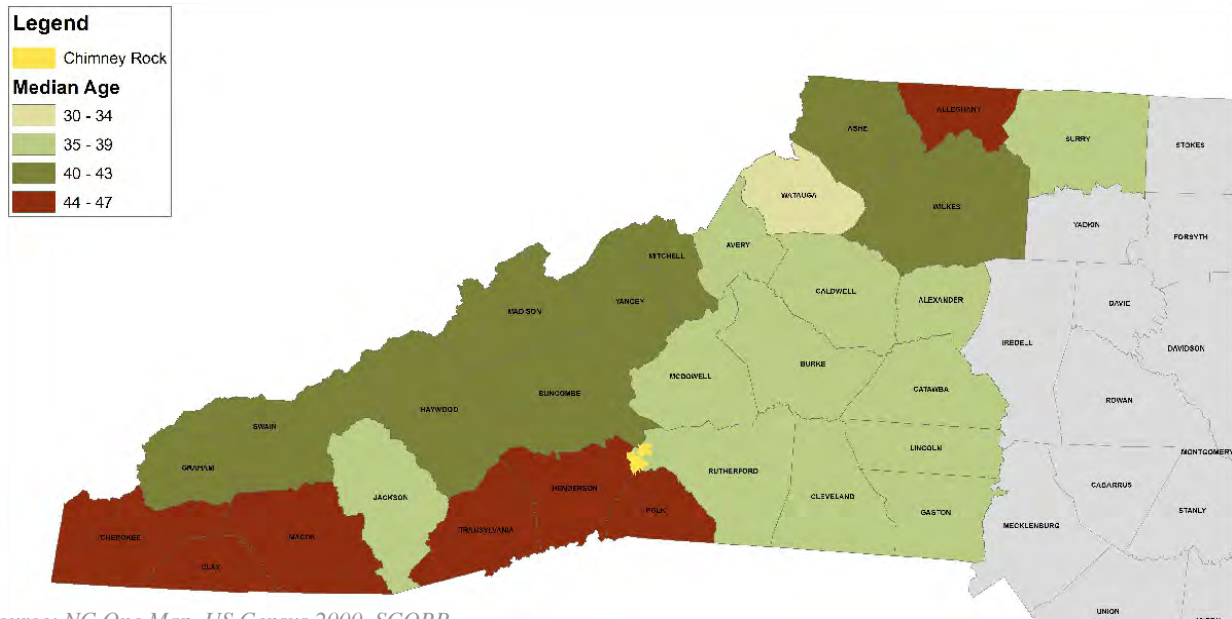


Source: NC One Map, US Census 2000, SCORP



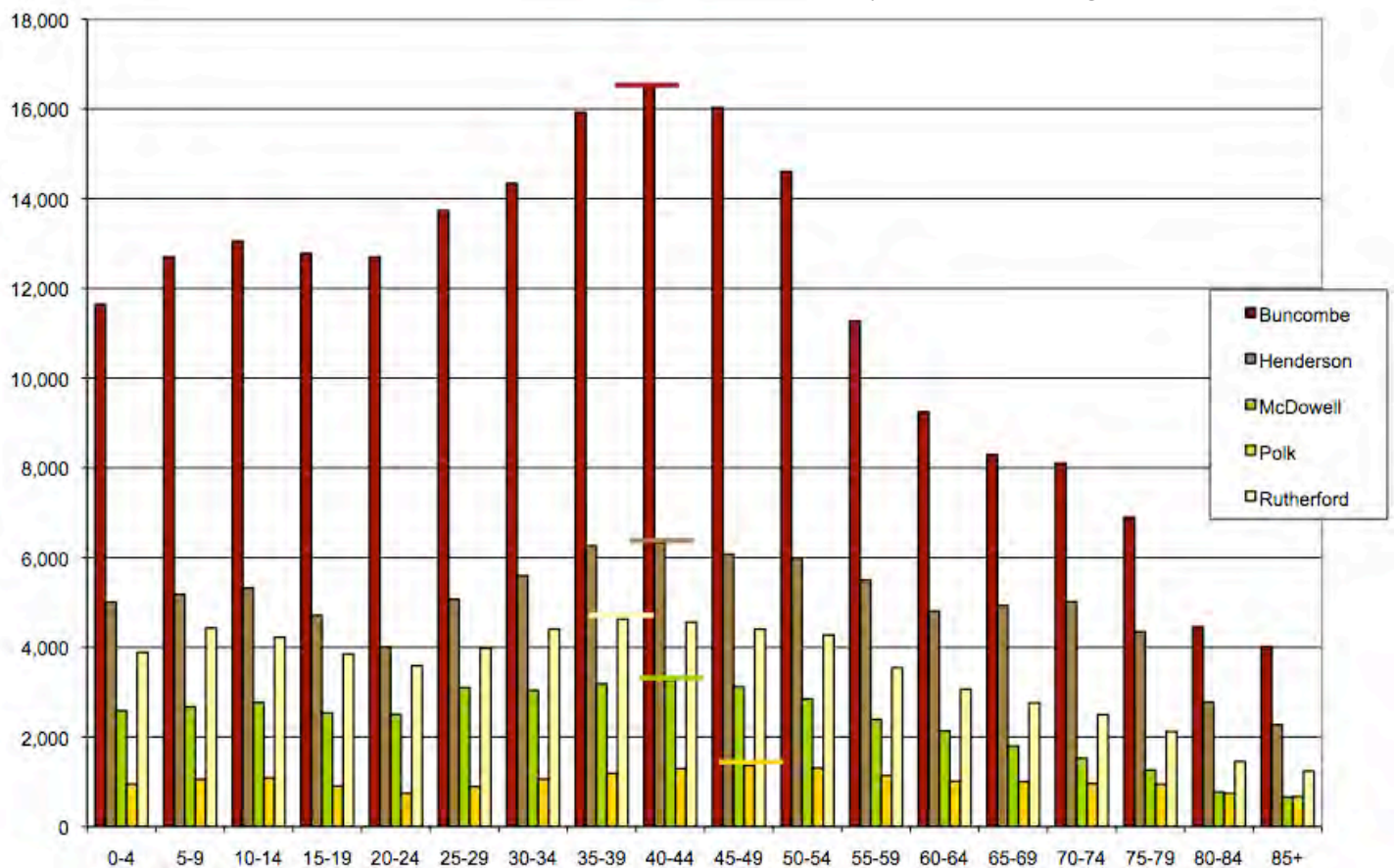
Interestingly, Chimney Rock State Park borders four counties that show quite a range of median age for western North Carolina (Figure 4.11). For example, Rutherford County has a median age of 38 while Polk County has a median age of 45. Because of this local range, it will be important to meet the recreational needs of both younger and older populations (see Figures 4.12 - 4.14).

FIGURE 4.11: MEDIAN AGE MAP (2000)



Source: NC One Map, US Census 2000, SCORP

FIGURE 4.12: AGE GROUP DISTRIBUTION (2000) Chimney Rock Surrounding Counties



Source: US Census 2000

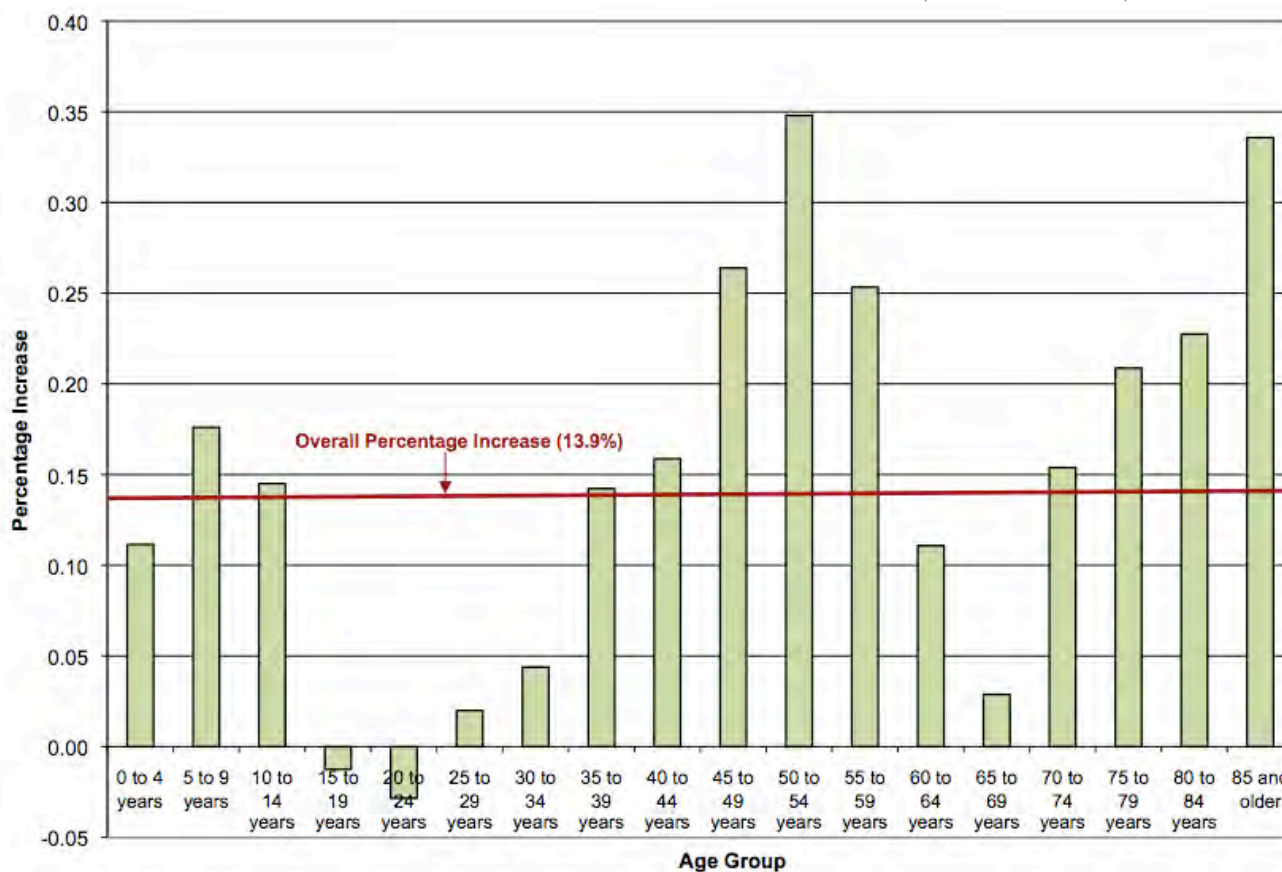
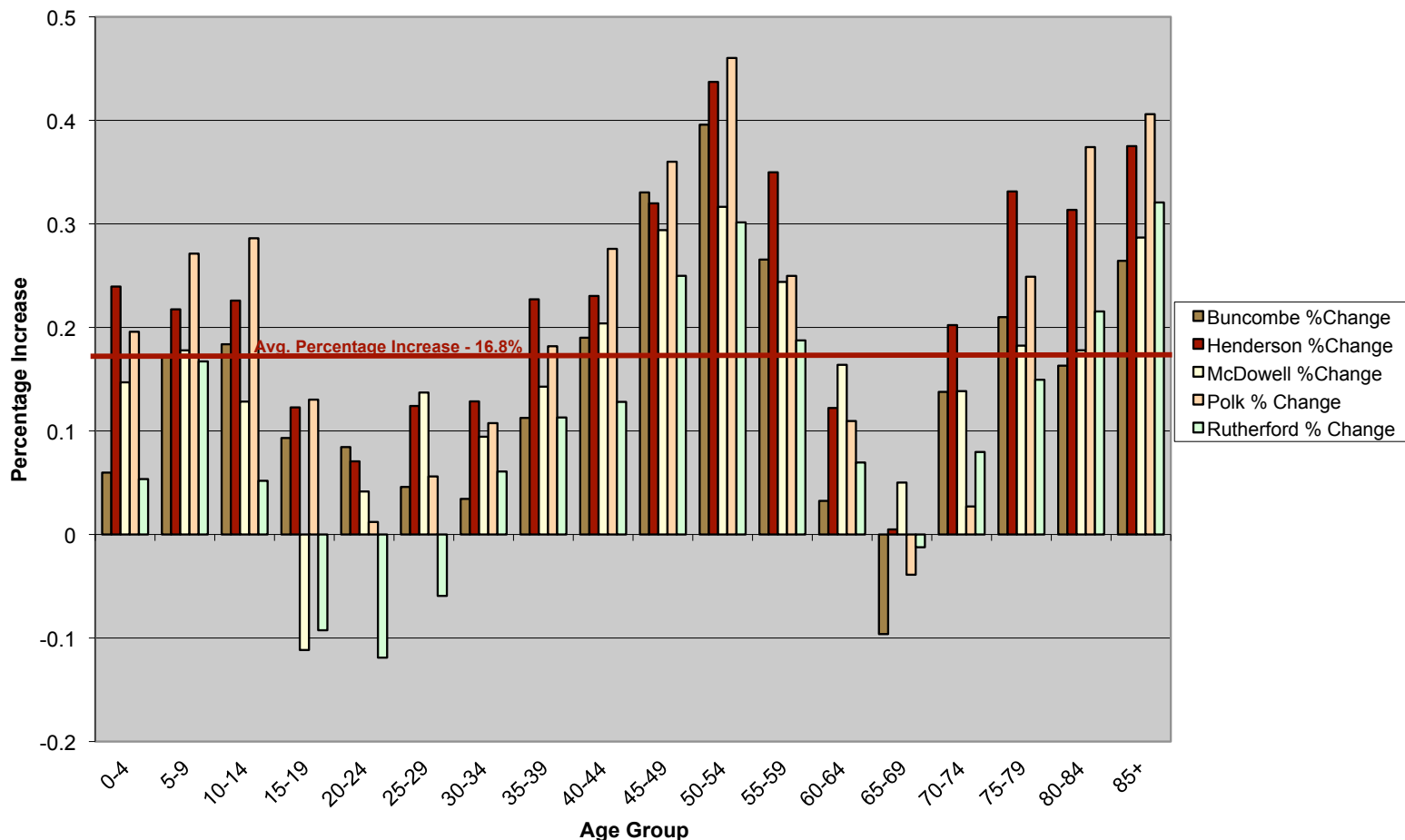
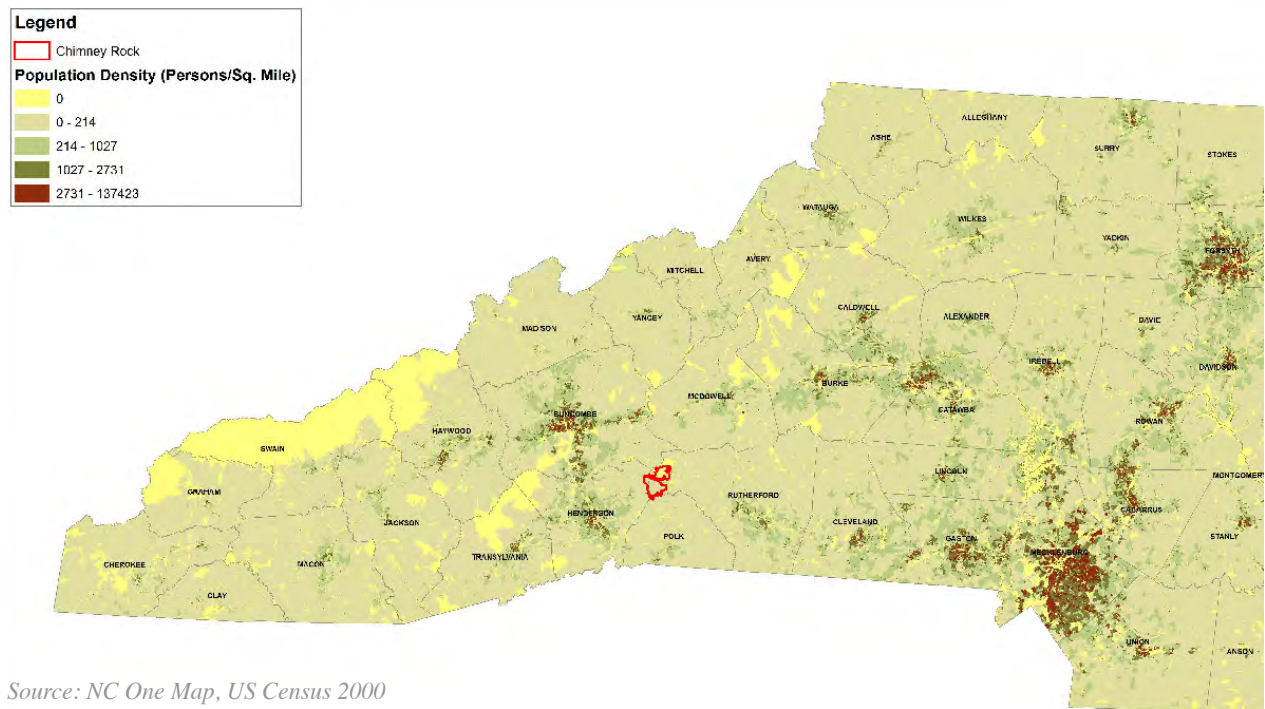
FIGURE 4.13: PERCENTAGE INCREASE BY AGE GROUP (1990 TO 2000) *Western North Carolina*FIGURE 4.14: PERCENTAGE INCREASE BY AGE GROUP (1990 TO 2000) *Chimney Rock Surrounding Counties*



FIGURE 4.15: POPULATION DENSITY 2000 MAP



Source: NC One Map, US Census 2000

IDENTIFYING THE PARK VISITOR

Chimney Rock State Park had 210,720 visitors in 2009 and 214,728 visitors in 2010. Among these visitors, the following park user groups were identified.

WORKING FAMILIES AND YEAR-ROUND RESIDENTS

This group includes families with children, individuals, couples and other household types where the inhabitants generally reside in the community year-round. Most are employed in or around the area.

- Picnicking
- Hiking (moderate, moderate distance, loops)
- Interpretive area(s) with programs
- Horseback riding
- Views, vistas and wildlife
- Fishing, paddling
- Tent site camping





RETIRED YEAR-ROUND RESIDENTS

Retirees include couples, individuals, and other household types where the inhabitants are older than 50 years, not working or working part-time and generally reside in the community year-round. This generally includes “active” retirees in the 50 years old to 75 years old group. In some instances these households may have visiting children, grand children or others who might use recreational facilities. Most have a sustainable source of income from pensions, social security, and savings sources.

- Picnicking
- Hiking (easy, short distance, loops)
- Interpretive area(s) with programs
- Views, vistas and wildlife
- Fishing



TEMPORARY RESIDENTS (RESIDENTIAL VISITORS)

This group includes second and vacation homeowners and those that rent these properties on a seasonal or shorter-term basis. This segment includes a full range of age groups and interests including individuals, families with children, groups of friends and couples.

- Hiking (moderate to difficult, extended mileage, out-and-back)
- Mountain biking
- Rock climbing
- Horseback riding
- Views, vistas and wildlife
- Fishing, paddling
- Backpacking
- Primitive camping



VISITORS (TOURISTS)

The tourist segment includes visitors to the area for short durations ranging from a few hours or less to several days. This group may be just driving through, staying in local hotels, or camping. This segment also includes a full range of age groups and interests including individuals, families with children, groups of friends and couples.

- Hiking (all levels)
- Mountain biking
- Rock climbing
- Horseback Riding
- Views, vista and wildlife
- Fishing and paddling
- Backpacking
- Primitive Camping
- Picnicking
- Interpretive areas with programs

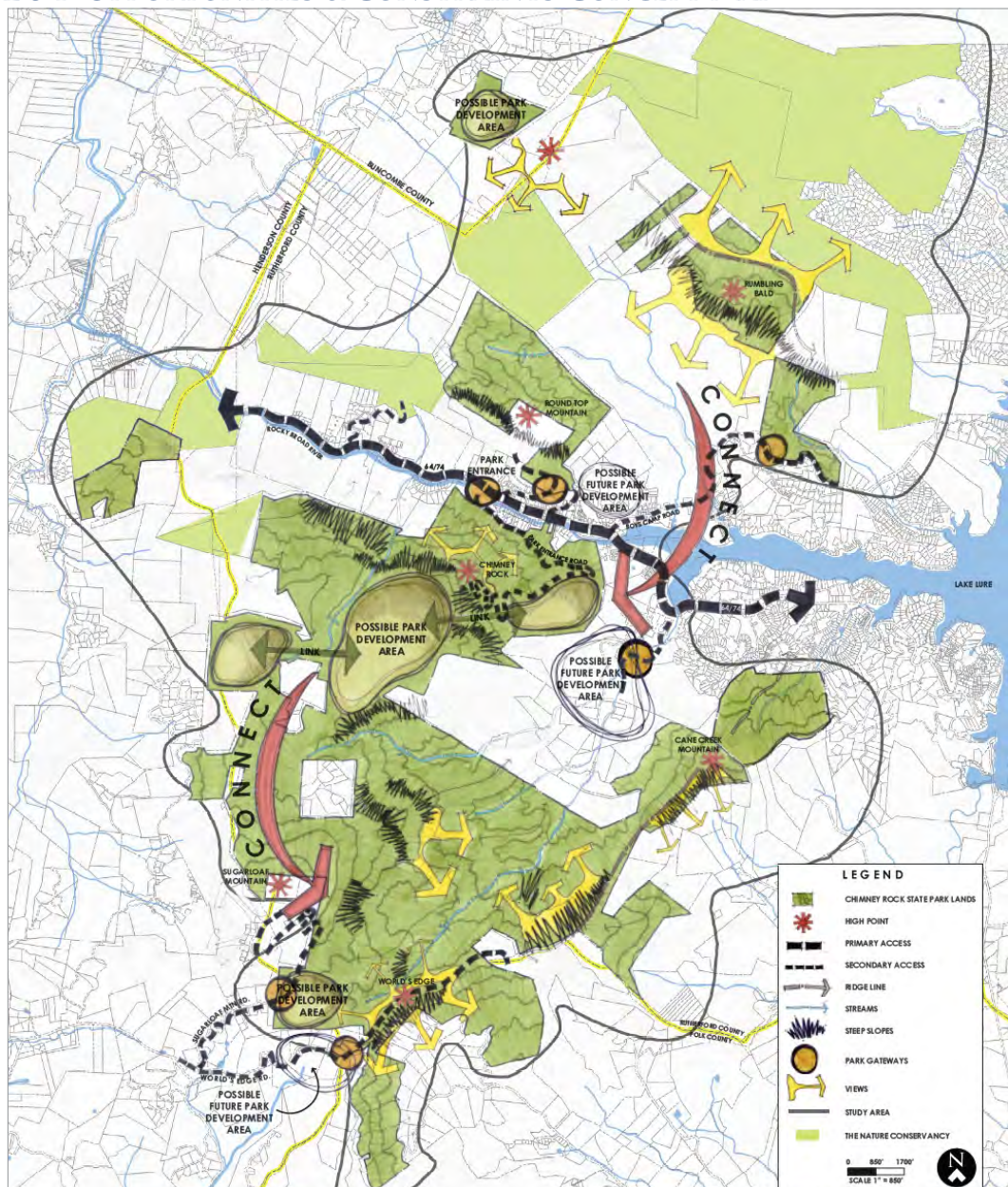


5 OPPORTUNITIES & CONSTRAINTS FOR FUTURE PARK DEVELOPMENT

OVERVIEW

Chimney Rock State Park is already recognized as a premier natural destination in western North Carolina. The recent acquisition of additional parklands by the state creates an abundance of opportunities to conserve additional ecological regions within Hickory Nut Gorge as well as provide increased recreational opportunities for park visitors. Early in the planning process, a graphic study was prepared showing potential opportunities and constraints for development in the Chimney Rock State Park study area (Figure 5.1).

FIGURE 5.1: OPPORTUNITIES & CONSTRAINTS CONCEPT MAP





GENERAL OPPORTUNITIES AND CONSTRAINTS AT CHIMNEY ROCK STATE PARK

Chimney Rock State Park's distinct beauty and expanse of open space is due largely to its geomorphology. Steep rock cliffs, several large summits, and the varying terrain offer outstanding vistas and a broad spectrum of natural features for exploration. This range of site features provides the opportunity for future park users to design their own park experience. Existing roadways such as Boys Camp Road and World's Edge Road provide opportunities for park gateways and access points.

While opportunities are numerous, constraints must be considered as part of a thorough examination. Constraints affect implementation, feasibility of construction, park development and operation, and cost. The dramatic landscape of Chimney Rock State Park offers very limited areas for future park facility development. Among the 4,531 acres of parklands, less than 100 total acres are flat enough to accommodate park facilities. Steep topography and hydrology patterns restrict structures, roadways, and day use areas. Access is a substantial constraint to park circulation, operations, and connectivity. U.S. Route 64/74A, the Rocky Broad River, and the existing terrain are the main factors that limit connectivity between the north and south study area of the parklands. Travel times to the north and south of the park from central Chimney Rock along existing roadways can take up to 45 minutes. In addition, for all proposed facilities, a low impact development program will be necessary in order to maintain the ecology across the study area. The region has a valuable concentration of rare plant and animal species. The significant natural heritage areas that are present in the park today have the potential to thrive for generations, and the success of their protection presents constraints to park development areas. Adjacent private properties also constrain park expansion and future development. Landowner and resident privacy will need to be considered and respected when planning for public facilities and access. Park roadways and trails will need to be planned away from existing neighborhoods, homes and other private lands. Finally, steps will need to be taken to address the existing jeep trails and unpaved corridors in the park, which are considered unusable due to erosion and overuse. Rehabilitating these facilities will take time and introduce potential unanticipated costs during park development.

CENTRAL CHIMNEY ROCK STATE PARK

Central Chimney Rock State Park includes the Attraction, Chimney Rock Mountain, Chimney Rock Village, Town of Lake Lure, and Bottomless Pools. There are several development opportunities in central Chimney Rock State Park. The park entrance road off U.S. Route 64/74A provides existing public access to the Attraction. At the Meadows, opportunities exist for an egress roadway as well as visitor facilities in the large flat open area. Proctor Road offers an additional access point off U.S. Route 64/74A, making an alternative entrance road a possibility.



The Meadows in the foreground, with Chimney Rock in the background.



A view of Lake Lure from the Opera Box at Chimney Rock; Rumbling Bald slopes upward, left of the lake.

Although views of Lake Lure and Chimney Rock Village are breathtaking, the landscape that surrounds them constrains any expansion opportunities in and around the Attraction. Steep rock cliffs and valleys limit any additional roadway connections to U.S. Route 64/74A. Stream patterns and Hickory Nut Falls are sensitive areas that also constrain development.



SOUTHERN CHIMNEY ROCK STATE PARK

World's Edge and Cane Creek Mountain comprise southern Chimney Rock State Park and contain some of the park's most unique views of the southern gorge. This area is more remote and offers significant natural features not found in other parts of the park, such as large mountain streams and extended north/south ridgelines. Despite the remote location, two potential gateways would offer public access at World's Edge Road and Sugarloaf Mountain Road. South of Sugarloaf Mountain, a large flat area off Sugarloaf Mountain Road serves as an opportunity for future park development.

Public access to southern Chimney Rock State Park is available; however travel times to these roadways from the park entrance can take up to an hour. This extended trip time is a constraint for park operations and visitor access. There are no additional paved roadways within the park boundary, and existing jeep trails are considered unusable due to severe erosion problems. Several farms and homesteads are adjacent to park property, and all roadways, public facilities, and signage will require cooperation with private landowners. Therefore, this area lends itself to limited development opportunities within a remote landscape.



World's Edge



NORTHERN CHIMNEY ROCK STATE PARK

Northern Chimney Rock State Park includes Rumbling Bald Mountain, among other natural features. Northern Chimney Rock State Park has the potential for a backcountry visitor experience, and would be ideal for those seeking more solitude than is found in other areas of the park. Rare opportunities to view the north side of Rumbling Bald exist at Eagle Rock and Shumont Mountain. Boys Camp Road, a collector road off U.S. Route 64/74A, is an opportunity to provide access between the entrance road to the park and northern Chimney Rock State Park. Several possible park development areas south of Rumbling Bald and west near Shumont Mountain are flat and adjacent to existing roadways. Trail development in northern Chimney Rock State Park will be challenging, as the jeep trail along the ridgeline of Rumbling Bald Mountain is not feasible for a future hiking trail.

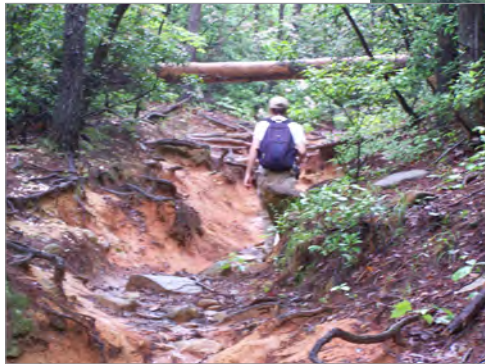


A view of Lake Lure from Rumbling Bald Mountain.



The Rocky Broad River and U.S. Route 64/74A bisect the northern park, creating a significant disconnect between the southern and central park. This is a constraint for potential park facilities in the southwest area near Round Top Mountain. The steep cliff faces and highly sensitive natural features limit park facility development. Access is limited to Boys Camp Road and Shumont Road, with travel times ranging between 30 to 60 minutes from the entrance to Chimney Rock State Park. Another constraint to future northern park facilities is the adjacent land use. Single-family lots and private property border the park boundary, and careful planning will be necessary to segregate private and public facilities. Signs of trespassing and unauthorized hiking, climbing and parking are evident near Eagle Rock and at the eastern, northern, and southern part of Rumbling Bald. Additionally, a substantial amount of erosion is occurring along several of the existing jeep trails, affecting access and recreation in this section of the park.

Constraint: Large sections of the existing jeep trail on Rumbling Bald Mountain are eroding.





6 PARK PURPOSE

VISION

Chimney Rock State Park will be a destination that enhances the stewardship and enjoyment of the state's natural and cultural resources; a place that provides a range of nature-based recreation experiences consistent with the ecological character and scenic beauty of Hickory Nut Gorge; and a place that supports interpretive programs that educate visitors about the park's unique flora and fauna, distinct geology, sensitive and endangered species, and land conservation and stewardship practices.

GOALS AND OBJECTIVES

GOAL: *Develop a conservation and resource management program that prioritizes sensitive natural heritage areas and outlines a comprehensive land conservation strategy for existing and future parkland.*

OBJECTIVES:

1. Establish a phasing plan for future park use that will guide future park development programs.
2. Identify natural communities within the park, and determine best management methods for protection.
3. Abandon all unsustainable roads and trails and take appropriate measures to prevent further resource degradation.
4. Protect and monitor designated species within the park. Continue mapping of rare species using global positioning systems (GPS) technology.
5. Establish a program to map, prioritize, and treat invasive species throughout the park. Collaborate with private land owners where feasible.





GOAL: *Provide a variety of high quality, sustainable, natural resource-based outdoor recreation opportunities to meet the diverse needs of park visitors.*

OBJECTIVES:

1. Provide a park trail network among natural resources and features that provides a cross section of hiking experiences.
2. Develop improved facilities for picnicking within park core for groups and families.
3. Identify opportunities for camping experiences within the park.
4. Manage rock climbing in appropriate areas.
5. Explore the feasibility of providing equestrian and mountain biking trail opportunities where appropriate.





GOAL: *Expand interpretive opportunities through the establishment of Chimney Rock State Park educational programs and the development of new use areas and facilities.*

OBJECTIVES:

1. Provide opportunities for learning about park natural and cultural resources through static interpretive displays, park contact stations, educational materials, on- and off-site interpretive programs, and guided tours where .
2. Continue to develop and initiate self-guided interpretive trails.



GOAL: *Centralize park facilities to improve access and improve operational efficiency between park facilities, day use areas, and management.*

OBJECTIVES:

1. Provide universally accessible public facilities.
2. Concentrate limited development footprint of visitor's center and other park offices.
3. Limit day use facilities outside of park core for increased operational efficiency.



Hickory Nut Falls



GOAL: *Explore the feasibility of establishing a network of regional trails that connects park and other public areas within the Hickory Nut Gorge, thereby strengthening the local economy and enhancing community amenities.*

OBJECTIVES:

1. Collaborate on a trails network that links Chimney Rock State Park throughout Hickory Nut Gorge.
2. Connect visitors to the park by providing public trail connections to park facilities and day use areas, the Town of Lake Lure, and Chimney Rock Village.



1 Lake Lure Town Greenway

2 Hikers taking in the view of Hickory Nut Gorge

3 Chimney Rock Village



7 PARK DEVELOPMENT PROGRAM

OVERVIEW

Meeting the goals of the Chimney Rock State Park master plan will require a park development program that integrates the existing conditions inventory and analysis, needs assessment, park opportunities and constraints, and the N.C. Division of Parks and Recreation mission statement. A strong park program will provide the foundation for current and future phases of park development. For the purposes of this master plan, the Chimney Rock State Park Development Program falls into three categories: Conservation Management Areas; Education and Stewardship Areas; and Access and Recreation Areas.

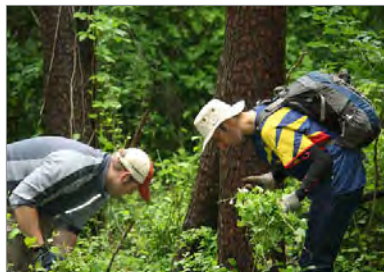
It is important to note that proposed park development program areas are not mutually exclusive from one another. Alternatively, all of the programs will overlap each other to some extent. By determining where conservation, education, and recreation can occur within the park early in the planning process, the programs can and will compliment one another.

CONSERVATION MANAGEMENT AREAS

Where there is a high concentration of rare species and wildlife habitats as well as significant natural features, a conservation management area is introduced to promote the protection of these sensitive areas. Significant natural heritage area (SNHA) data was examined in combination with other geographic information systems (GIS) data, such as biodiversity and wildlife habitat assessment mapping. Fieldwork and inventory of existing facilities was also considered to determine the best locations for conservation. Because of the sensitive ecology in conservation management areas, public access should be very limited to prioritize natural resource conservation. Trails may traverse some parts of the conservation management areas but no trails will begin or end within these boundaries. Any proposed ancillary features will be planned a substantial distance from the protection areas.



GPS/GIS mapping



Removing invasive plants



Identifying rare species



Conservation management techniques will vary in scale depending on the occurrence of natural communities in each area of the park. Managing landscape connections between significant natural heritage areas will strengthen habitat as well as extend ecological viability for species such as black bear and predatory birds. The landscape connections buffer ecological corridors for species that require large areas for breeding and foraging. These large, unfragmented areas also offer local benefits to smaller species. If managed well, natural resources will thrive and regenerate. The N.C. Division of Parks and Recreation should continue to work closely with conservation partners, such as The Nature Conservancy, Carolina Mountains Land Conservancy, and Foothills Conservancy to ensure the protection of these landscape connections.

The most notable locations for conservation management in the park are areas south of Shumont Mountain, west of Rumbling Bald, and near Round Top Mountain. In the southern park, conservation management areas include areas around Bat Cave, Stony Mountain, and lands north of World's Edge, east of Sugarloaf Mountain, and west of Cane Creek Mountain.

EDUCATION AND STEWARDSHIP AREAS

Part of the N.C. Division of Parks and Recreation's mission is to promote stewardship and provide environmental education opportunities to visitors. Within Chimney Rock State Park, education and stewardship areas will incorporate passive recreation limited to picnicking, easy to moderate guided hiking, and environmental education. These areas may also be accessed by permit or with the guidance of N.C. Division of Parks and Recreation staff, due to their remote location and sensitive surroundings. Rotating programs, established by the N.C. Division of Parks and Recreation, would be seasonal and potentially offered to local schools or other interested groups.



Students in an environmental education class

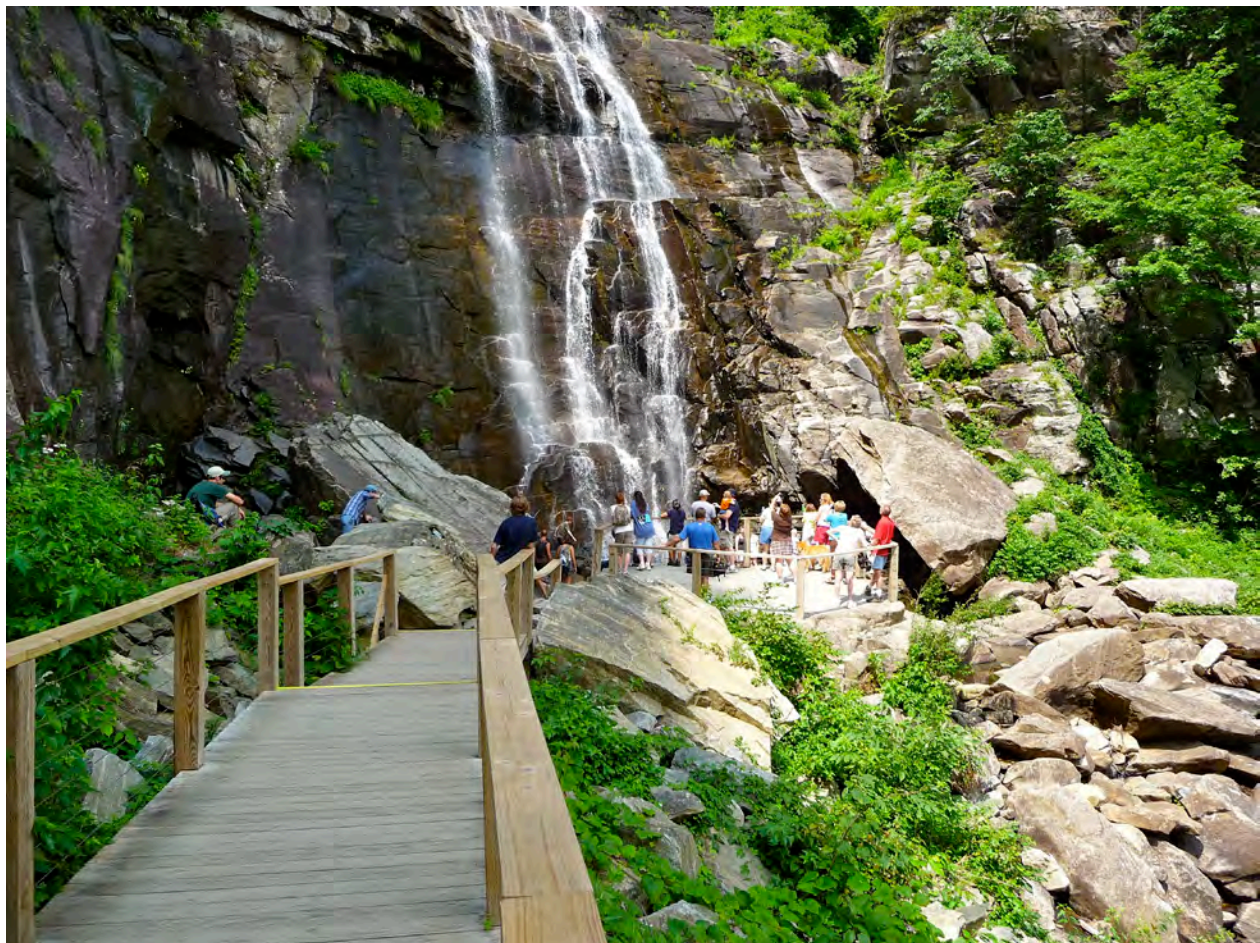


Some areas in the park could be utilized for education and stewardship programs. Examination of significant natural heritage area data indicates that rare species' habitat is occurring all across the study area. However, certain areas are less concentrated, and therefore may be more appropriate for permitted or a guided access facility. Some areas on the north side of Rumbling Bald may be capable of supporting limited hiking. In south Chimney Rock State Park, the Cane Creek Mountain area may also be able to support limited low impact facilities. Because no parking or toilet facilities will be available in the education and stewardship areas, using adjacent access and recreation areas will be necessary.

ACCESS AND RECREATION AREAS

Close examination of park opportunities and constraints indicate that certain areas of the park are better candidates for public access, due to existing roadways and other amenities. Because Chimney Rock State Park will incorporate low impact and sustainable design principles for park development, considering existing facilities for future use is advantageous and cost effective. Typical access and recreation areas will include vehicle parking, toilet buildings, and visitor ancillary features, such as kiosks and water fountains. These areas include varying levels of passive and active recreation opportunities, depending on the presence of rare plant and animal species, existing roadways, and travel distance from proposed park facilities.

Access and recreation areas are proposed in central, south and north Chimney Rock State Park. This includes the Attraction, Bottomless Pools, World's Edge, and Rumbling Bald. Activities will range from picnicking, easy to difficult hiking, environmental education, and backpack camping (in more remote areas).



Hickory Nut Falls



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8 PROPOSED PARK ALTERNATIVES

INTRODUCTION

Three different park development concepts were prepared and presented to the citizens of North Carolina through a public open house and internet-based online comment form. The Chimney Rock State Park public comment form was designed to solicit input on a series of questions relevant to park visitation, programming, and planning. Although not a statistically-valid survey, the comment form was an important tool in the planning process, enabling the N.C. Division of Parks and Recreation to understand important concerns and desires of future park users. It was distributed in hardcopy format to participants at the public open house meeting in May 2010 and was made more broadly available online from late May through June of 2010. A total of 586 responses were recorded. The results of each question are featured in detail in Appendix A. The key results of the online comment form include:

- A strong desire for increased hiking, camping, mountain biking, and rock climbing opportunities in Chimney Rock State Park
- A preference for a park master plan that incorporates recreation and development that has a low-impact on the environment, with a focus on conservation
- Request for public access to closed trails
- A need for conservation and protection of significant natural resources
- An interest in more day use areas and increased public access areas

MAY 2010 PUBLIC OPEN HOUSE WORKSHOP

On May 26, 2010, the N.C. Division of Parks and Recreation conducted a public planning session at Lake Lure Town Hall. Citizens were invited to view and comment on three proposed design alternatives for Chimney Rock State Park, ask questions to N.C. Division of Parks and Recreation staff and the project consultant, and share ideas regarding the future of the state park.



Park staff, project consultants, and the general public discussed each of the alternatives at a planning workshop, and hundreds of people provided input online (see Appendix A for all public comments).





The May workshop was a drop-in style meeting that took place from 10 a.m. until 7 p.m. Display boards were set up illustrating regional context, park programming, and inventory/analysis maps of the project study area. A regional trails map and typical park facilities board was also made available. Three map stations contained the proposed design alternatives, where participants were given the opportunity to submit written comments (each alternative is shown and described on the following pages). Workshop participants were asked to complete a comment form that contained specific questions relevant to the project. Questions such as park visitation frequency, recreational interests, and future park facilities were included on the comment form. A total of 157 participants signed the attendance registration sheet. All comments from this workshop are included in Appendix A.

Immediately following the workshop for a period of four weeks, a project resources webpage and the on-line comment form were made available to provide an opportunity for continued public input. The project resources webpage included links to all workshop materials and informational boards for downloading and viewing, as well as a link to the online comment form.

PARK DEVELOPMENT ALTERNATIVES PRESENTED AT THE WORKSHOP

The three alternatives presented at the May 2010 open house workshop are described on the following pages. Under all three alternatives, improvements would be made to existing facilities, infrastructure and trails at the former Chimney Rock Park tourist destination. These repairs and renovations to modernize the facilities should improve safety and the visitor experience. Existing substandard and unsustainable trails in backcountry areas of all park properties would be abandoned and revegetated where feasible. The three alternatives include:

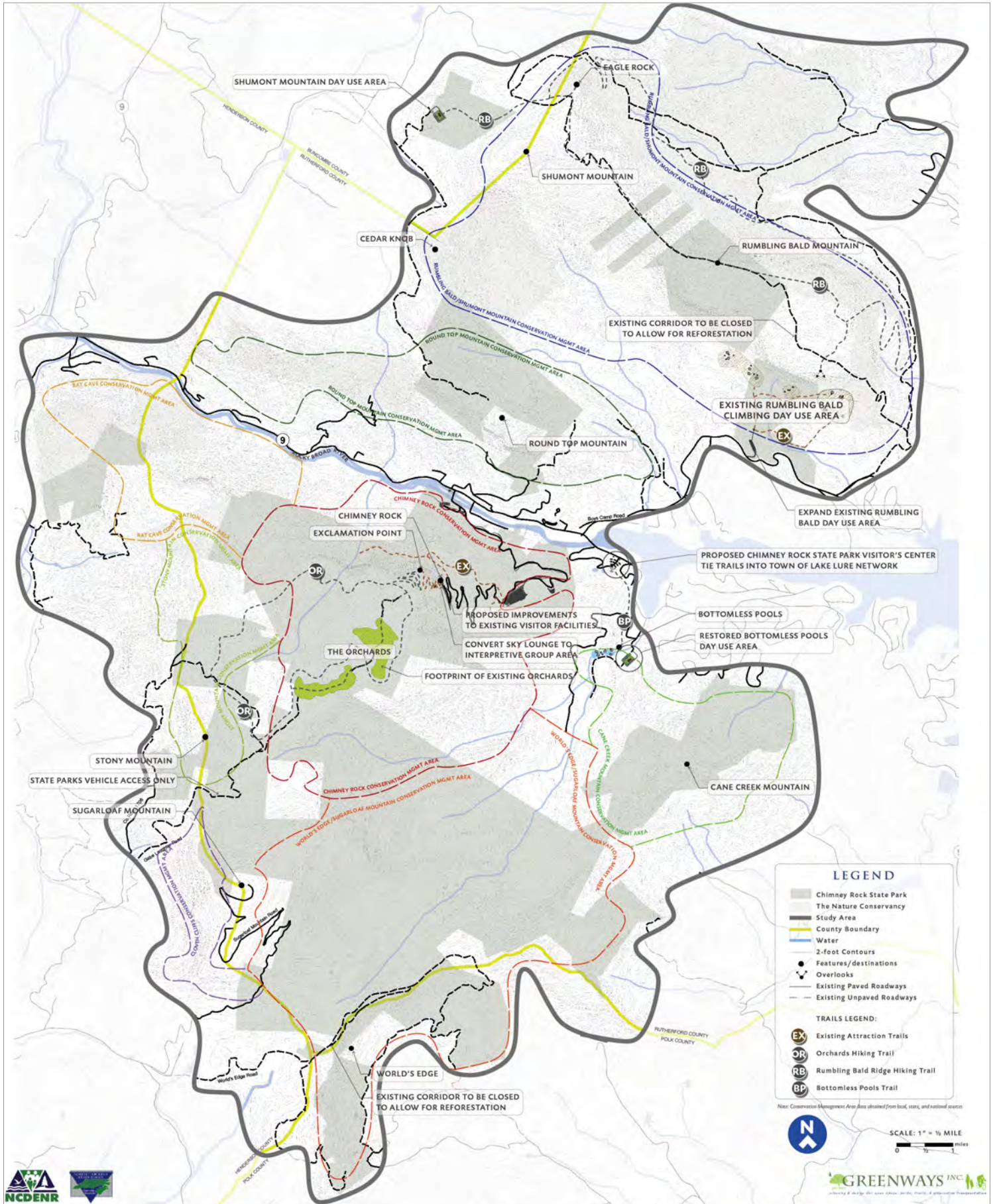
- Alternative #1: Conservation-Focused Park
- Alternative #2: Low Impact Recreation
- Alternative #3: Intensive Recreation and Use

ALTERNATIVE #1: CONSERVATION-FOCUSED PARK

Protection and stewardship of Significant Natural Heritage Areas is the guiding philosophy for the Conservation-Focused Park alternative (Figure 8.1). Significant Natural Heritage Areas comprise eight different areas of the Chimney Rock State Park study area and are shown in this concept as conservation management areas. Each conservation management area would incorporate methods for natural species protection, including ecosystem and landscape-scale stewardship with minimal human disturbance. Under this scenario, public access within the conservation management areas would be limited to prioritize natural resource conservation over general outdoor recreation.

The Conservation-Focused Park alternative would use the existing park entrance and entry road. Under this scenario, development of new and additional park facilities would be minimized in accordance with the conservation-based design concept. A visitor center is proposed across from the Lake Lure Town Hall, and would be connected to the community via the Lake Lure Greenway. Two day use areas are proposed, one at Bottomless Pools and the other near Shumont Mountain. Several proposed hiking trails occur in the northern, central, and southern part of Chimney Rock State Park. The first would extend from Exclamation Point to the top of Chimney Rock Mountain and loop around the Orchards. The other trail would begin at the Shumont Mountain day use area and extend along the Rumbling Bald ridge, with an out-and-back option or a loop around the north side of Rumbling Bald. Approximately 10 miles of proposed hiking trails are included within this concept.

FIGURE 8.1: ALTERNATIVE # 1: CONSERVATION-FOCUSED PARK





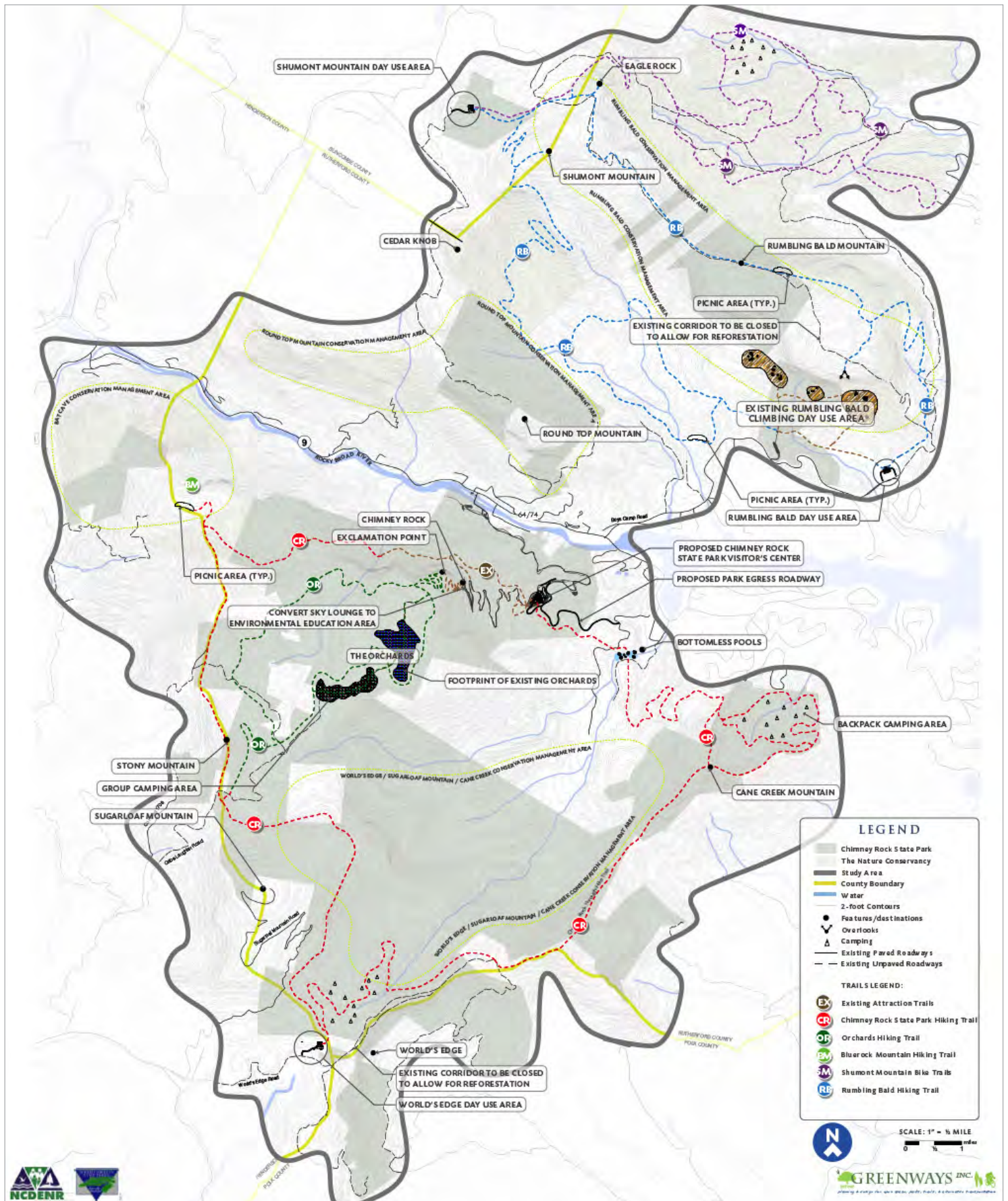
ALTERNATIVE # 2: LOW IMPACT RECREATION

The Low Impact Recreation alternative (Figure 8.2) proposes the use of existing disturbed areas for future park development activity. Taking advantage of areas that are cleared, flat, or previously developed minimizes environmental impact and creates opportunity for lower cost and more environmentally sensitive park expansion and development. The Low Impact Recreation alternative would transform the existing entrance road into a one-way ingress road that leads to a proposed visitor center at the Meadows. From the Meadows, a new two-way road is proposed that would extend to Proctor Road in Lake Lure. The visitor center at the Meadows would incorporate parking for approximately 300 cars and use permeable paving solutions. Park administrative offices are proposed at the Meadows and the entrance gate would be relocated further into the park so that the Chimney Rock State Park visitor center could be accessed without going through the fee station.

The proposed visitor center at the Meadows would become a recreational hiking hub for Chimney Rock State Park, and an extensive network of trails would be accessible from this area that lead to Chimney Rock, the Orchards, World's Edge, Cane Creek Mountain, and other destinations in the central and southern part of the park. The trail network would also include an extended hiking option with camping and day use areas strategically located so that hikers of all skill levels could hike at their own pace.

Day use areas are proposed at World's Edge, near Shumont Mountain, and near Rumbling Bald. The proposed Rumbling Bald day use area would be an expansion of the existing day use area that would accommodate more visitors and provide an increase in the variety of recreational uses. The area of Chimney Rock State Park that encompasses Rumbling Bald, Shumont Mountain, Eagle Rock, and Round Top Mountain would become a more remote visitor experience, with limited park facilities and access to more strenuous hiking, mountain biking, and rock climbing.

FIGURE 8.2: ALTERNATIVE # 2: LOW IMPACT RECREATION





ALTERNATIVE # 3: INTENSIVE RECREATION AND USE

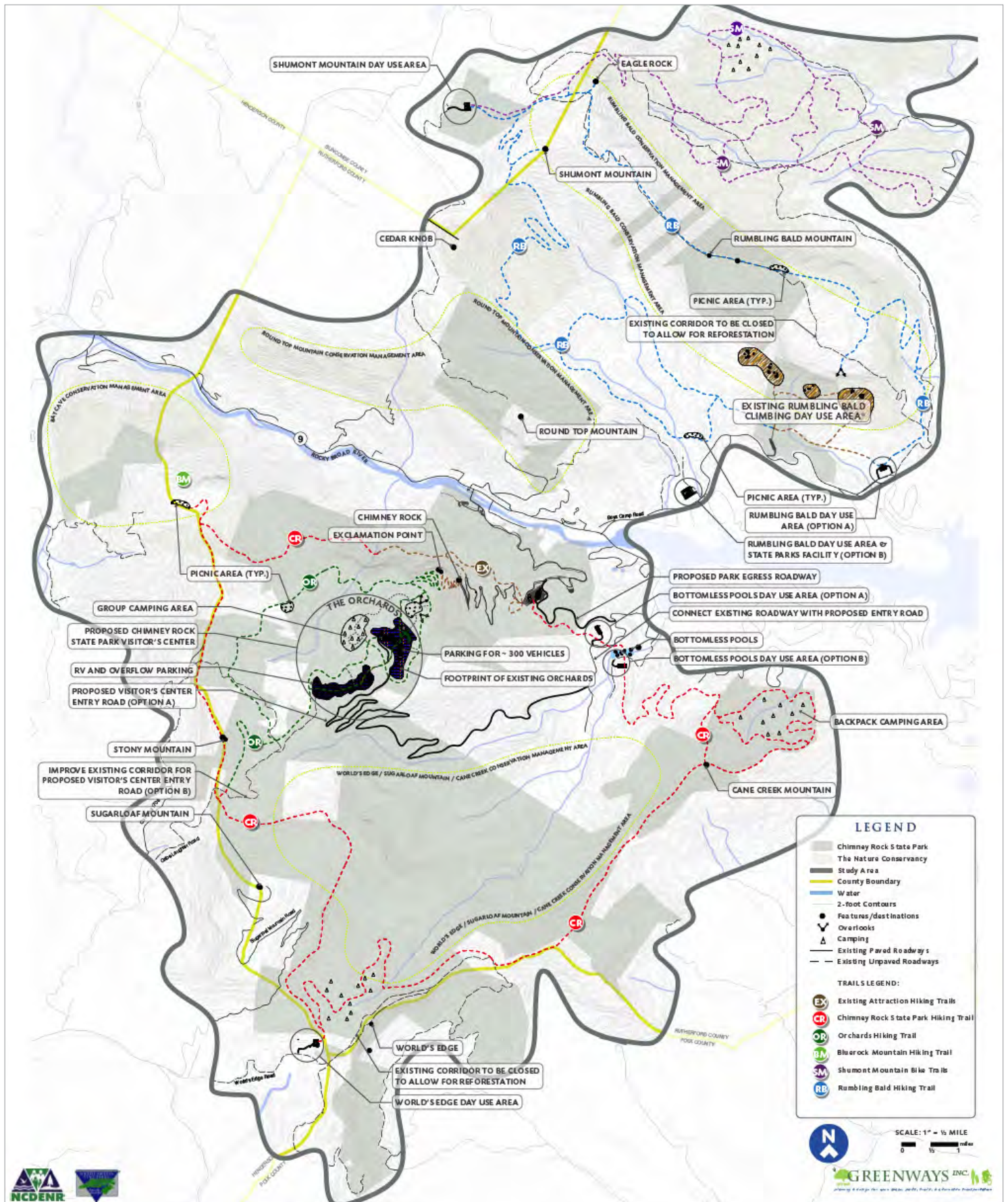
The Intensive Recreation and Use alternative (Figure 8.3) proposes park facilities at multiple access points throughout the study area, and would provide the user with various day use locations, overnight camping, and recreation opportunities for all people regardless of their ability. A visitor center is proposed for development at the top of Chimney Rock Mountain, in an area known as the Orchards, an abandoned 25-acre apple orchard. The new visitor center would be a large hub for nature-based recreation within the central and southern parts of Chimney Rock State Park with access to tent-and-trailer camping, picnicking, and hiking.

Vehicular access to the Orchards is challenging with respect to the mountainous terrain. Two options for an entry road to the Orchards have been identified for this alternative. The first option is a new roadway that ties to Proctor Road in Lake Lure. This new roadway would extend along the west side of Chimney Rock Mountain. Due to steep topography, the road would be extremely costly and likely cause an adverse environmental impact. A second roadway option would extend from Sugarloaf Mountain Road to the Orchards. This option would use an existing road corridor, reducing both the road cost and environmental impact of first road option described above. However, a proposed park entrance via Sugarloaf Mountain Road would require a longer drive to the Orchards than the proposed road extension from Proctor Road in Lake Lure.

In addition to the visitor center at the Orchards, a day use area is proposed at World's Edge and at Bottomless Pools. The Bottomless Pools day use areas has two options. The first option would be to renovate the existing facility. The second option would be to provide access via trails to Bottomless Pools, and locate visitor facilities elsewhere nearby in order to mitigate congestion during peak use.

A second park facility and small-scale visitor center is proposed near Rumbling Bald. This facility could serve as a potential satellite park administration office and day use area for the northern part of Chimney Rock State Park. Smaller day use areas with public toilets and parking would be located near the Rumbling Bald Climbing Day Use Area and near Shumont Mountain. These day use areas would become gateways for mountain biking, equestrian, rock climbing, and hiking. Other activities proposed in the northern part of the park include picnicking, camping and guided hiking tours.

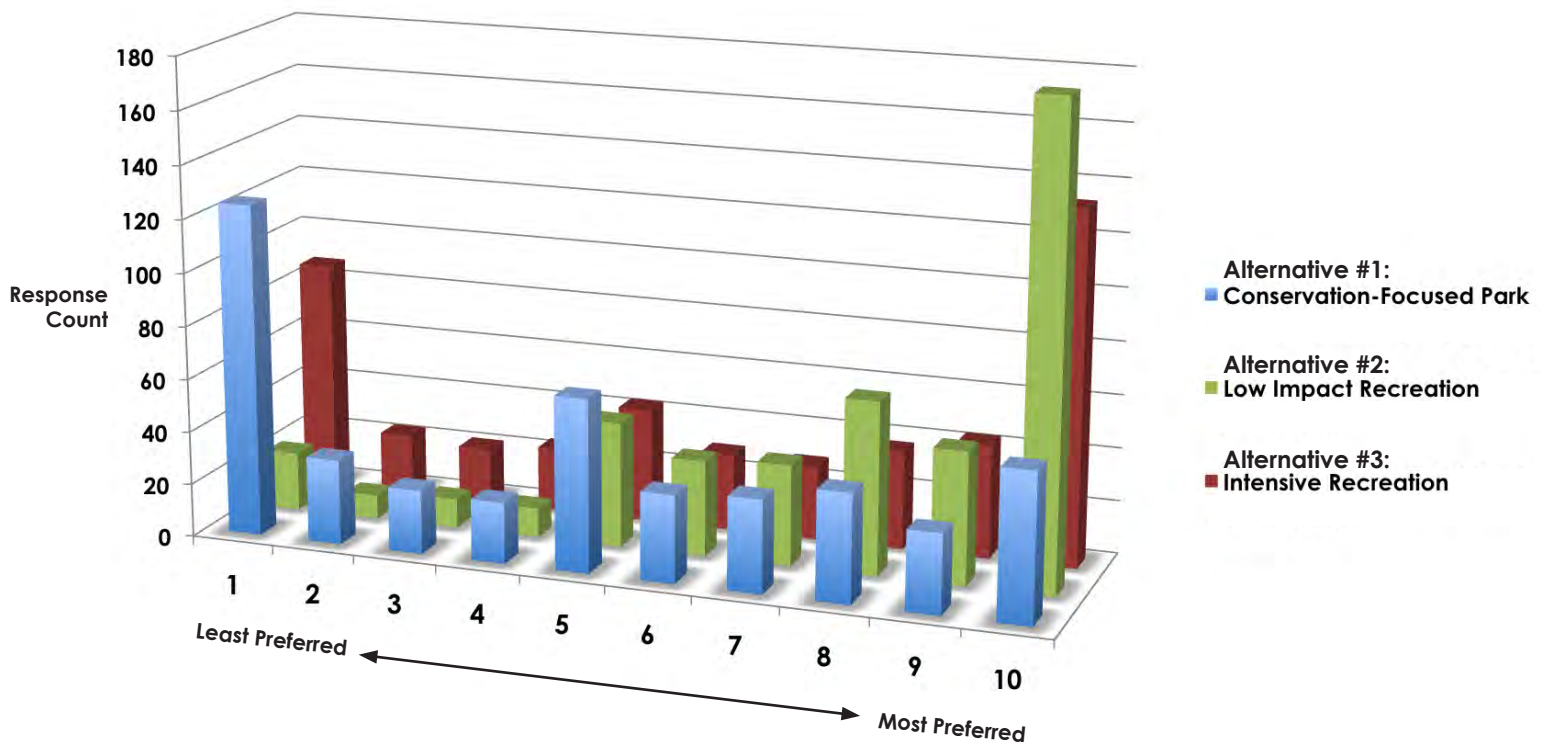
FIGURE 8.3: ALTERNATIVE # 3: INTENSIVE RECREATION AND USE



SUMMARY OF PUBLIC RESPONSES TO THE THREE ALTERNATIVES

Figure 8.4 displays public input regarding the three alternatives. In the public comment form, respondents were asked to rate the alternatives from one to ten, ten being their most preferred alternative. As shown in the bar graph below, *Alternative #2: Low Impact Recreation* was the most preferred; it had the highest response counts in the six through ten range and the least in the one through five range. Conversely, *Alternative #1: Conservation-Focused Park*, was the least preferred, with high response counts in the one through five range, and the least in the six through ten range.

FIGURE 8.4: PUBLIC PREFERENCE FOR THE THREE ALTERNATIVES



Respondents were also asked what they liked most about the alternatives, and what they would change. Their open-ended responses reflected a wide range of opinions, but in summary, they most often indicated a desire for more opportunities for mountain biking, climbing, hiking, and camping (in that order). Please see Appendix A for more comment form results, including text from all open-ended responses from the public.

Using the feedback obtained from the public, along with input and direction from the N.C. Division of Parks and Recreation, a preferred alternative for Chimney Rock State Park was prepared and is described in Chapters 10 of this master plan.



9 PARK DEVELOPMENT ISSUES

OVERVIEW

This chapter outlines some of the development issues associated with planning new park facilities at Chimney Rock State Park. Locations for day use areas, visitor facilities, and park staff facilities were examined and the opportunities and constraints weighed for each. In *Chapter 10: Recommendations*, many of these issues are addressed with recommendations.

VISITOR CENTER LOCATION

There is a substantial lack of access to large areas of flat, developable space within Chimney Rock State Park. The steep elevations and diverse topography that produce such tremendous views also limit low-impact options for facility development. Among the 4,531 acres that exist in Chimney Rock State Park, only about 3 percent are feasible for developed park facilities. With the exception of the Meadows, there are no other flat areas on currently-owned park property that offer the space necessary to accommodate a visitor center, parking, and vehicle access. Other sites within the study area that were considered are explained below.

1) THE ORCHARDS

The Orchards, an abandoned apple orchard located at the top of Chimney Rock Mountain, provides a substantial amount of flat space. Views to the gorge are afforded by the high elevation. Despite the opportunities, there are numerous constraints. The Orchards proposal was not well-received at the public open house. Participants were concerned about the environmental impacts, expense, and aesthetics. Roadway access to this area is constrained by a private, unpaved jeep trail and currently requires a utility vehicle to navigate. Improving this corridor to public roadway standards will require substantial rerouting and reconstruction. Road construction will adversely impact the landscape and surrounding wildlife. Additionally, a travel time more than 45 minutes will be necessary for visitors driving from the existing park entrance.



The Orchards is feasible for the development of park facilities, however road access is the limiting constraint.



2) CAMPGROUNDS NEAR LAKE LURE TOWN HALL

Conveniently located just south of U.S. Route 64/74A, across from Lake Lure Town Hall, is a tract of land that was previously operated as a private campground. The tract totals 16 acres, with two neglected ponds and five acres of flat developable space. The former campgrounds are still privately owned, and would require acquisition by the State of North Carolina.

While this location is feasible geographically, operational issues pose constraints if a visitor center were constructed in this location. The Rocky Broad River and U.S. Route 64/74A are barriers currently dividing the park, creating a disconnect between parklands north and south of these areas. The goal of creating a park core will be difficult to accomplish with a visitor center at this location.

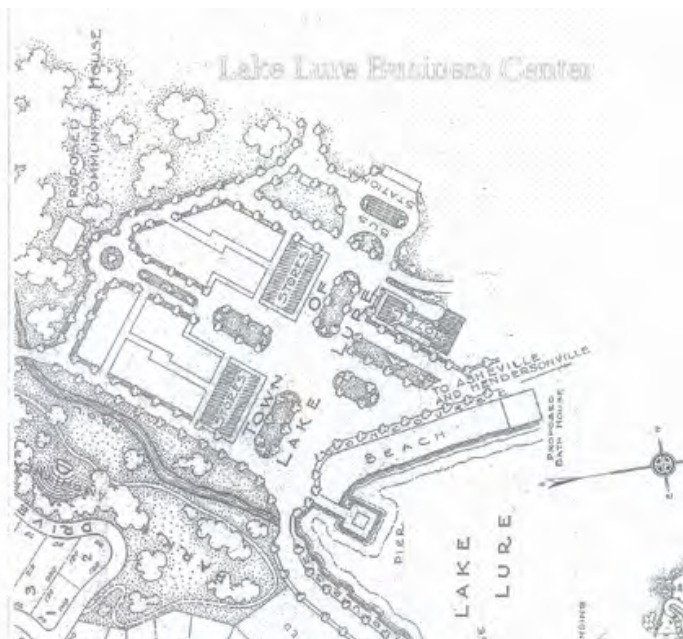
Visitor parking will be a major issue from a capacity and management standpoint. Of the 16 acres on the tract, only five acres are actually considered developable for a low impact facility. Much of this space will be used for park facilities and an entrance road, with a marginal amount remaining for visitor parking.

Finally, it may be challenging for the Town of Lake Lure, Village of Chimney Rock, Hickory Nut Gorge representatives and Chimney Rock State Park staff to target each visitor's experience with multiple operations occurring in a shared-use facility. Having a separate location solely for park visitors will better distinguish the park visitor experience.

3) LAKE LURE TOWN CENTER

The Town of Lake Lure is reviving landscape architect E.S. Draper's 1926 plan for the Lake Lure Town Center. The Town Center Plan was envisioned to contain two retail buildings, a hotel and a bus station. The Lake Lure Inn and Arcade were constructed and remain in use to this day. Consideration was given to locating the proposed Chimney Rock State Park Visitor Center within the town center. Under the proposal, the state park would share space with the Town of Lake Lure, Village of Chimney Rock, and other tourism interests in a regional visitor center. The N.C. Division of State Parks and Recreation staff determined that a shared environment would not satisfy the operational requirements of a visitor center.

The division does support working closely with the Town of Lake Lure, Chimney Rock Village and other agencies and organizations to establish a regional tourism center within the town center that could provide residents and visitors with important information about venues, attractions, activities and events.



The original 1926 Lake Lure Town Center Plan



RECREATIONAL ACCESS FACILITIES

Providing visitor access to the natural opportunities offered at Chimney Rock State Park requires careful planning in order to balance development and use with natural resource protection in or near these areas. Chimney Rock State Park is largely undeveloped, which makes it particularly attractive to conservation and nature-based recreation enthusiasts. By renovating existing park areas where feasible and providing new facilities, visitation will inevitably increase. Dispersing visitors through multiple day use areas will limit impact and potential overuse.

Ideal locations for day use recreation are those that have flat, suitable space to accommodate parking for up to 50 vehicles, existing roadway access, the ability to connect visitors to north and south Chimney Rock State Park, and are outside significant natural heritage area boundaries. Day use areas should be located away from residences and neighborhoods where possible to minimize land use incompatibilities. Operational access should also be available for efficient park staff maintenance and patrol. Land for day use areas, much like the Visitor Center, is very limited within the study area.

Using existing public roadways, access opportunities were examined along U.S. Route 64/74A, Boys Camp Road, Buffalo Creek Road, Shumont Road, Sugarloaf Mountain Road, and World's Edge Road. Travel time from the park entrance is a significant issue (ranging from 15 minutes to one hour) as is existing roadway conditions and adjacent land uses. Many roadways will need improvements if used for public access to park day use areas. With the exception of U.S. Route 64/74A, Boys Camp Road, Buffalo Creek Road, and World's Edge Road, day use areas along existing roadways are limited to these areas only within Chimney Rock State Park. The justification is explained on the following pages.

SHUMONT ROAD

Shumont Road connects with N.C. Highway 9 approximately two miles north of U.S. Route 64/74A. Shumont Road is a narrow mountain road that climbs in elevation and winds through residential properties. The roadway is paved before it terminates a few hundred feet west of Eagle Rock. South of Shumont Road and west of Shumont Mountain, an 84-acre parcel of land was studied for its potential to serve the northwestern region of the park. It's suitable topography, available space, and potential connections to Shumont Road were opportunities for consideration of a day use area.

Further study indicates that a day use area at Shumont Mountain will require substantial improvements to Shumont Road and additional land acquisition. Despite the potential connections provided by Shumont Road, public access will need to be further developed if a day use area is proposed. This connection would require easements across private property or the acquisition of property adjacent to Shumont Road. Also, adjacent landowners expressed concerns about current trespassing issues being exacerbated by the proximity of a public access area to their homes.



State park boundary gate near the end of Shumont Road



SUGARLOAF MOUNTAIN ROAD

The majority of developable land along Sugarloaf Mountain Road is privately owned. Where park boundary intersects with the roadway, topography and natural features limit the space required for day use area facilities. Sugarloaf Mountain Road is also east of a significant natural heritage area known as Cloven Cliffs. At the end of the roadway is a small community of homeowners. By increasing park traffic in this area with the introduction of a day use area, the privacy and environmental sensitivity of the Cloven Cliffs area could be compromised. At World's Edge, just south and east of Sugarloaf Mountain Road, a more suitable opportunity exists for public access.

KING TRACT

The King Tract is a 362-acre property that sits on the north slopes of Rumbling Bald. The tract is currently owned by The Nature Conservancy, and will eventually be transferred to the State of North Carolina to become part of Chimney Rock State Park. With the acquisition of the King Tract, The Nature Conservancy has increased natural resource protection around Rumbling Bald Mountain. Existing public access to the King Tract through park property is unavailable. Acquisition of additional property or easements across adjacent private property would be required to provide visitor access. In order for the King Tract to support future recreational activity, access should be planned in partnership with the Town of Lake Lure through the Weed Patch Mountain property.

WEED PATCH MOUNTAIN

Carolina Mountain Land Conservancy owns the 1,527-acre Weed Patch Mountain, a tract located north of Rumbling Bald. Weed Patch Mountain borders the northern edge of the King Tract and extends east toward Buffalo Creek Road. Carolina Mountain Land Conservancy has expressed interest in transferring ownership of Weed Patch Mountain to the State of North Carolina for its inclusion in Chimney Rock State Park. The conservation of Weed Patch Mountain protects views from Rumbling Bald. It also provides a conservation buffer for the northern part of Chimney Rock State Park.

Currently, no public access is available at Weed Patch Mountain. At the northern edge of Lake Lure, Buffalo Creek Road continues through a private neighborhood, extending north to the eastern boundary of property owned by the Town of Lake Lure. This property is adjacent to the southeastern corner of Weed Patch Mountain. The town has developed a vision for a future park which will include hiking trails, mountain biking trails, picnicking, and a small parking area. Working in partnership, the Town of Lake Lure and the N.C. Division of Parks and Recreation could make public access to Weed Patch Mountain and the King Tract available through this property.



TRANSPORTATION IN THE HICKORY NUT GORGE

A large number of visitors currently travel to the Hickory Nut Gorge to visit Chimney Rock State Park, the Chimney Rock Village, and the Town of Lake Lure. The Hickory Nut Gorge experiences a substantial amount of vehicle traffic in peak season, and with the proposed park improvements, congestion and parking are anticipated to become an issue that will effect the entire region. This issue has become a growing concern for residents, visitors, and park staff. It is advantageous to plan now for a transit element so that when new park facilities are being implemented, a seamless integration can occur.



Overflow parking at the Meadows is full during peak season

PROPOSED PARK ENTRANCE ROAD

With the proposed park improvements at Chimney Rock State Park, there will inevitably be an increase in visitation. A shorter, more efficient route of travel into the core of the park will provide more time-efficient response for emergency, patrol, and fire response, and will help to mitigate vehicle congestion in the gorge. Significant improvements will be required to bring the existing park entrance road up to modern standards for two-way travel, including time and resources. Introducing a new park entrance road will not only support the Hickory Nut Gorge Transit System, it will become a corridor for bicycle and pedestrian access and accommodate the modernization of state park utilities such as water, sewer, electrical, and high speed telecommunications. With minor improvements, the existing entrance road will become a one-way egress road allowing for safer circulation into and out of the park.



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